1. **About opioid receptors is TRUE:**
    - A. are alpha receptors
    - B. by binding to them are produced effects that mimic the action of endogenous peptide neurotransmitters
    - C. mu receptors modulate the responses to thermal, mechanical, and chemical nociception
    - D. are dopamine receptors
    - E. are nicotine receptors
    - F. are muscarine receptors
    - G. are delta receptors
    - H. are kappa receptors
    - I. are mu receptors
    - J. are beta adrenergic receptors

2. **Which is a strong opioid agonist:**
    - A. oxymorphone
    - B. morphine
    - C. oxycodone
    - D. naltrexone
    - E. buprenorphine
    - F. fentanyl
    - G. codeine
    - H. naloxone
    - I. pentazocine
    - J. meperidine

3. **Which is a semisynthetic opioid:**
    - A. oxycodone
    - B. meperidine
    - C. hydromorphone
    - D. methadone
    - E. buprenorphine
    - F. fentanyl
    - G. oxymorphone
    - H. codeine
    - I. tramadol
    - J. hydrocodone

4. **Which is a synthetic opioid:**
    - A. remifentanyl
    - B. sufentanyl
    - C. tapentadol
    - D. hydrocodone
    - E. oxymorphone
    - F. hydromorphone
    - G. tramadol
    - H. methadone
    - I. oxycodone
    - J. buprenorphine

5. **Which is a phenanthrene opioid agonist:**
    - A. codeine
    - B. morphine
    - C. methadone
    - D. levorphanol
    - E. tramadol
    - F. oxymorphone
    - G. fentanyl
    - H. remifentanyl
    - I. papaverine
    - J. hydromorphone

6. **Which is a phenanthrene opioid agent:**
    - A. butorphanol
    - B. meperidine
    - C. tramadol
    - D. sufentanyl
    - E. oxycodone
    - F. hydrocodone
    - G. buprenorphine
    - H. tapentadol
    - I. pentazocine
    - J. nalbuphine

7. **The following about the opioid receptors is TRUE:**
   A. are not associated with ion channels
   B. inhibit adenylyl cyclase
   C. the enkephalins interact more selectively with δ receptors in the periphery
   D. increase presynaptic Ca2+ influx
   E. increase postsynaptic K+ efflux
   F. decrease postsynaptic K+ efflux
   G. stimulate the transmitter release in the spinal dorsal horn
   H. reduce presynaptic Ca2+ influx
   I. are members of the G protein–coupled receptor family
   J. facilitate the neuronal firing

8. **The following are TRUE about the effects of opioids:**
   A. antiemetic
   B. depression of cough reflex
   C. antidiarrheal
   D. hypertension at high doses
   E. euphoria
   F. stimulation of respiratory center
   G. miosis
   H. increasing the motility of gastrointestinal tract
   I. analgesia
   J. mydriasis

9. **The following are TRUE about the effects of morphine:**
   A. hypotension at higher doses
   B. decreasing the tone of the intestinal circular smooth muscle
   C. the decrease of sex hormones production
   D. diarrhea
   E. tachycardia at high doses
   F. Bronchodilation
   G. the release of histamine
   H. contraction of the gallbladder
   I. emesis
   J. dilation of the biliary sphincter

10. **The following are adverse effects in the treatment with opioids:**
   A. sedation
   B. urinary loss
   C. agitation
   D. addiction
   E. hypertension
   F. constipation
   G. nausea
   H. mydriasis
   I. tachycardia
   J. urinary retention

11. **The following about opioids are TRUE:**
   A. hydromorphone is preferred over morphine in patients with renal dysfunction
   B. buprenorphine is contraindicated in opioid detoxification
   C. methadone is used for opioid withdrawal
   D. nalbuphine strongly affect the heart
   E. meperidine is indicated for analgesia in patients with renal insufficiency
   F. fentanyl has 100-fold the analgesic potency of morphine
   G. dextromethorphan is an antitussive agent
   H. the analgesic actions of codeine are derived from its conversion to morphine
   I. meperidine is indicated for analgesia in elderly patients
   J. pentazocine is an antagonist on the opioid receptors

12. **The following are TRUE:**
   A. meperidine is indicated for analgesia in patients with hepatic insufficiency
   B. pentazocine is indicated for analgesia in patients with angina
   C. naltrexone has a short duration of action
   D. nalbuphine is an opioid antagonist
   E. buprenorphine is an agonist-antagonist on the opioid receptors
   F. the association meperidine and selective serotonin reuptake inhibitors may induce serotonin syndrome
   G. sufentanyl is mainly used during surgical procedures requiring anesthesia
   H. methadone may be used in the treatment of neuropathic pain
   I. tramadol has strong respiratory-depressant activity compared to morphine
   J. meperidine has anticholinergic effects

13. **The following are symptoms of opioid withdrawal syndrome:**
    A. tachycardia
    B. miosis
    C. rhinorrhea
    D. hypotension
    E. hypothermia
    F. seizures
    G. anxiety
    H. somnolence
    I. tremors
    J. constipation

14. **The following are indications of opioids:**
    A. pain
    B. relief of cough
    C. bradycardia
    D. respiratory depression
    E. bronchial asthma
    F. constipation
    G. diarrhea
    H. anesthesia
    I. acute pulmonary edema
    J. obstructions of biliary tract

15. **The following are TRUE:**
    A. opioids are used as preanesthesic medication
    B. meperidine has low analgesic effect
    C. codeine is contraindicated in children under 12 years old
    D. repeating dosing of methadone may lead to accumulation
    E. remifentanyl has low analgesic effect
    F. tramadol may be indicated in breastfeeding mothers
    G. pentazocine has strong analgesic effect
    H. buprenorphine can prolong the QT interval
    I. buprenorphine has a short duration of action
    J. meperidine may induce renal toxicity

16. **The following are TRUE:**
    A. oxycodone has low analgesic effect
    B. codeine may be used as analgesia in children under 12 years old
    C. opioids are used as postoperative analgesics
    D. alfentanyl has low analgesic effect
    E. codeine has strong analgesic effect
    F. tapentadol is indicated in neuropathic pain
    G. tramadol is contraindicated in breastfeeding mothers
    H. nalbuphine has strong analgesic effect
    I. methadone can prolong the QT interval
    J. the transdermal patch with buprenorphine is applied every 7 days

17. **The following are benzodiazepines:**
    A. buspirone
    B. meprobamate
    C. pentobarbital
    D. clonazepam
    E. zaleplon
    F. oxazepam
    G. phenobarbital
    H. midazolam
    I. alprazolam
    J. lorazepam

18. **The following are barbiturates:**
    A. triazolam
    B. amobarbital
    C. meprobamate
    D. zolpidem
    E. pentobarbital
    F. buspirone
    G. zaleplon
    H. butabarbital
    I. secobarbital
    J. phenobarbital

19. **The following are anxiolytic agents:**
A. doxylamine
B. hydroxizine
C. buspirone
D. phenobarbital
E. nandrolone
F. cocaine
G. risperidone
H. diazepam
I. flumazenil
J. ephedrine

20. **The following are anxiolytic agents:**
A. epinephrine
B. doxepin
C. olanzapine
D. amphetamine
E. zolpidem
F. midazolam
G. caffeine
H. oxazepam
I. methytestosterone
J. meprobamate

21. **The following substances acts on the GABAA receptor:**
A. buspirone
B. doxepine
C. flumazenil
D. midazolam
E. clonidine
F. hydroxizine
G. zolpidem
H. diazepam
I. phenobarbital
J. caffeine

22. **The following is a mechanism of action of benzodiazepines:**
A. stimulation of GABAA receptor
B. stimulation the neurotransmission
C. decreasing the neurotransmission
D. inhibiting the formation of action potentials
E. hyperpolarization of the neuron
F. opening of the central chloride channel
G. stimulation of adrenergic receptors
H. facilitating the formation of action potentials
I. reduce the frequency of chloride channel openings
J. blocking of GABAA receptor

23. **The following are pharmacological effects of benzodiazepines:**
A. anxiety
B. spasmolytic
C. insomnia
D. sedative
E. respiratory stimulation
F. muscle relaxant
G. hypnotic
H. vasoconstriction
I. anxiolytic
J. anticonvulsant

24. **The following are indications of benzodiazepines:**
A. chronic obstructive pulmonary diseases
B. constipation
C. hypotension
D. bradycardia
E. seizures
F. skeletal muscle spasms
G. insomnia
H. artery coronary disease
I. premedication for endoscopy
J. generalized anxiety disorder

25. **The following are TRUE:**

A. diazepam is the drug of choice in status epilepticus
B. hypnotics are indicated to be used long time
C. barbiturates prolong the duration of the chloride channel openings
D. buspirone lacks the anticonvulsant properties
E. venlafaxine may be used as anxiolytic
F. barbiturates are associated with mild withdrawal symptoms
G. lorazepam is used to reduce the risk of alcohol withdrawal-related seizures
H. benzodiazepines with a short elimination half-life, induce less abrupt and severe withdrawal reactions
I. zolpidem has also anticonvulsant effects
J. oxazepam has a long half-life

26. **The following are TRUE:**

A. pentobarbital is a long acting barbiturate
B. the actions of buspirone are mediated by serotonin (5-HT1A) receptors
C. barbiturates are used as muscle relaxants
D. escitalopram may be used as anxiolytic
E. cognitive impairment can occur with use of benzodiazepines
F. buspirone lacks the muscle relaxant properties
G. barbiturates may induce dependence
H. flumazenil is indicated in the treatment withdrawal in dependent patients
I. diazepam has a short half-life
J. buspirone potentiates the CNS depression of alcohol

27. **The following statements are TRUE:**

A. procaine has rapid onset and short duration of action
B. methohexital is a general intravenous anesthetic
C. esteric local anesthetics are biotransformed by plasma cholinesterase
D. nitrous oxide is very irritant for the respiratory system
E. thiopental is a strong analgesic
F. ketamine is indicated for anesthesia in hypertensive patients
G. isoflurane is a general inhalatory anesthetic
H. sevoflurane provides a slow onset and recovery
I. dexmedetomidine is contraindicated in pediatric patients
J. local anesthetics block the sodium channels

28. **The following statements are TRUE:**

A. desflurane is a general inhalatory anesthetic
B. dexmedetomidine produces agitation
C. isoflurane provides a slow recovery
D. local anesthetics prevent the propagation of action potentials
E. nitrous oxide produces a complet anesthesia
F. propofof has a slow onset of the anesthesic effect
G. propofol is a general intravenous anesthetic
H. thiopental produces strong muscle relaxation
I. local anesthetics are usually associated with a vasoconstrictor
J. tetracaine has slow onset and long (spinal) action

29. **The following statements are TRUE:**

A. bupivacaine is an amidic local anesthetic
B. sevoflurane stimulates the respiratory reflexes
C. isoflurane is a potent anesthetic agent
D. nitrous oxide strongly depresses the respiration
E. desflurane provides very slow onset and recovery
F. desflurane has a high blood/gas partition coeficient
G. tetracaine is an estheric local anesthetic
H. general inhalational anesthetics have very narrow therapeutic index
I. isoflurane has strong liver and kidney toxicity
J. nitrous oxide acts on GABAA receptors

30. **The following statements are TRUE:**

A. lidocaine is an amidic local anesthetic
B. nitrous oxide provides a good analgesia
C. ketamine acts on GABAA receptors
D. isoflurane is indicated mainly as anesthetic for short procedures
E. chlorprocaine is an estheric local anesthetic
F. isoflurane has a high blood/gas partition coefficient
G. desflurane is mainly used for inhalation induction
H. isoflurane produces dose-dependent hypertension
I. inhaled anesthetic gases are used primarily for maintenance of anesthesia after administration of an intravenous drug
J. sevoflurane is contraindicated in pediatric patients

31. **The following statements are TRUE:**

[✓ A. benzodiazepines can induce a temporary form of anterograde amnesia]
B. isoflurane induces low muscle relaxation
[✓ C. ketamine induces a dissociated state in which the patient is unconscious with profound analgesia]
[✓ D. ketamine may induce hallucinations]
E. propofol increases the intracranial pressure
F. propofol may induce nausea and vomiting
G. propofol is the first choice for induction of general anesthesia and sedation
H. ketamine is contraindicated in bronchial asthma
[✓ I. prilocaine may produce methemoglobinemia]
J. local anesthetics block the chloride channel

32. **The following statements are TRUE:**

A. all local anesthetics cause vasoconstriction
[✓ B. etomidate is usually only used for patients with cardiovascular dysfunction]
C. allergic reactions to amidic local anesthetics are very frequent
[✓ D. methohexital is used for electroconvulsive therapy]
[✓ E. ketamine may be used as anesthetic in patients with cardiogenic shock]
F. nitrous oxide produces strong muscle relaxation
G. isofurane strongly sensitizes of heart to epinephrine
[✓ H. dexmedetomidine does not induce respiratory depression]
I. propofol is also a strong analgesic agent
J. propofol strongly depresses the myocardium

33. **The statement about anticonvulsant medication is TRUE:**

[✓ A. interfere with excitatory glutamate transmission]
B. stimulate the GABA transaminase
[✓ C. blocking voltage-gated Ca2+ channels]
D. decrease the concentration of GABA in the brain
E. activate the Na+ channels
F. increase the repetitive neuronal firing
[✓ G. blocking voltage-gated Na+ channels]
H. block the GABAA receptors
I. enhance inhibitory γ-aminobutyric acid (GABA)-ergic impulses
[✓ J. suppress seizures]

34. **The following are indicated in partial simple seizures:**

[✓ A. carbamazepine]
B. lithium
C. buprenorphine
D. cocaine
E. amphetamine
F. phenobarbital
[✓ G. levetiracetam]
[✓ H. lamotrigine]
[✓ I. zonisamid]
[✓ J. pregabalin]

35. **The following are indicated in primary generalized seizures:**

A. chlorzoxazone
B. cyclobenzaprine
C. ephedrine
[✓ D. divalproex]
E. cocaine
[✓ F. lamotrigine]
G. methylphenidat
[✓ H. levetiracetam]
[✓ I. ethosuximide]
[✓ J. zonisamide]

36. **The following are used as alternative in focal epilepsy:**

[✓ A. divalproex]
[✓ B. oxcarbazepine]
[✓ C. gabapentin]
D. lithium
E. methylphenidat
[✓ F. tiagabine]
G. cyclobenzaprine
H. ephedrine
[✓ I. phenytoin]
J. amphetamine

37. **The following are used in absence seizures:**
A. ethosuximide
B. divalproex
C. zonisamide
D. lamotrigine
E. methylphenidate
F. amphetamine
G. caffeine
H. topiramate
I. cocaine
J. lithium

38. **The following are indicated in tonic-clonic epilepsy:**
A. zonisamide
B. ephedrine
C. caffeine
D. divalproex
E. lamotrigine
F. topiramate
G. theophyline
H. dextroamphetamine
I. levetiracetam
J. varenicline

39. **The following are indicated in the treatment of Lennox-Gastaut syndrome:**
A. divalproex
B. lithium
C. caffeine
D. vigabatrine
E. levetiracetam
F. ephedrine
G. lamotrigine
H. codeine
I. cocaine
J. topiramate

40. **The statement about antiseizure medication is TRUE:**
A. phenytoin depresses the central nervous system
B. lamotrigine blocks sodium channels
C. ethosuximide is contraindicated in absence seizures
D. gabapentin is an inhibitor of GABA
E. felbamate may induce aplastic anemia
F. gabapentin has a lot of drug interactions
G. phenytoin may induce gingival hyperplasia
H. carbamazepine blocks the sodium channels
I. carbamazepine is an enzyme inhibitor
J. phenytoin activates the voltage-gated sodium channels

41. **The statement about antiseizure medication is TRUE:**
A. felbamate is reserved for use in refractory epilepsies
B. carbamazepine is contraindicated in bipolar psychosis
C. lamotrigine blocks high voltage–dependent calcium channels
D. topiramate may induce paresthesia
E. phenytoin has low toxicity
F. phenytoin is an enzyme inhibitor
G. phenobarbital is contraindicated in status epilepticus
H. long-term use of phenytoin may lead to development of osteoporosis
I. ethosuximide stimulates propagation of abnormal electrical activity in the brain
J. carbamazepine is effective in trigeminal neuralgia

42. **The following are statements TRUE:**
A. lamotrigine is contraindicated in bipolar psychosis
B. divalproex is not a teratogenic agent
C. carbamazepine is used in absence seizures
D. gabapentin is used in the treatment of postherpetic neuralgia
E. zonisamide is approved for use in patients with focal epilepsy
F. zonisamide is contraindicated in patients with sulfonamide hypersensitivity
G. gabapentin is contraindicated in elderly patients
H. carbamazepine decreases the metabolism of contraceptives
I. carbamazepine may induce hyponatremia
J. oxcarbazepine is a less potent inducer of cytochromes than is carbamazepine

43. **The following about felbamate are TRUE:**
    A. potentiates the GABA action
    B. has low toxicity
    C. is hepatotoxic
    D. competes with the glycine-binding site on the N- methyl-D-aspartate receptor
    E. blocks the voltage-dependent sodium channels
    F. stimulates the GABA transaminase
    G. is indicated in the treatment of refractory Lennox-Gastaut syndrome
    H. felbamate is the first choice in the treatment of epilepsy
    I. blocks the GABA receptors
    J. activates the calcium channels

44. **The following statements are TRUE:**
    A. pregabalin stimulates the excitatory neurotransmitter release
    B. phenytoin blocks voltage-gated sodium channels
    C. gabapentin is contraindicated in focal seizures
    D. long-term use of phenytoin may lead to development of peripheral neuropathies
    E. status epilepticus is a mild type of epilepsy
    F. phenytoin activates the calcium channels
    G. zonisamide may cause kidney stones
    H. phenytoin is used in the treatment of status epilepticus
    I. felbamate may induce aplastic anemia
    J. divalproex may induce weight loss

45. **The following statements are TRUE:**
    A. valproic acid stimulates the GABA transaminase
    B. pregabalin is indicated in diabetic peripheral neuropathy
    C. vigabatrine is an activator of GABA-T enzyme
    D. tiagabine blocks GABA uptake into presynaptic neurons
    E. topiramate blocks voltage-dependent sodium channels
    F. carbamazepine may induce hypernatremia
    G. levetiracetam can cause mood alterations
    H. topiramate stimulates high-voltage calcium currents (L type)
    I. pregabalin is indicated in focal-onset seizures
    J. phenytoin is contraindicated in status epilepticus

46. **The following statements are TRUE:**
    A. pregabalin is indicated in postherpetic neuralgia
    B. divalproex activates the sodium channels
    C. tiagabine facilitates GABA uptake into presynaptic neurons
    D. felbamate is is reserved for use in refractory epilepsy
    E. topiramate activates voltage-dependent sodium channels
    F. pregabalin is indicated in fibromyalgia
    G. ethosuximide reduces propagation of abnormal electrical activity in the brain
    H. the use of topiramate is associated with renal stones
    I. topiramate may induce weight gain
    J. phenytoin activates the voltage-gated sodium channels

47. **The following statements are TRUE:**
    A. tiagabine is effective as adjunctive treatment in focal seizures
    B. dosage adjustments of pregabalin are needed in renal dysfunction
    C. zonisamide activates the calcium T-type channels
    D. phenytoin stimulates the central nervous system
    E. topiramate may induce weight loss
    F. topiramate reduces high-voltage calcium currents (L type)
    G. divalproex may be used in pregnancy
    H. topiramate was approved for prevention of migraine
    I. pregabalin doesn`t need dosage adjustments in renal dysfunction
    J. phenobarbital decreases the metabolism of contraceptives

48. **The following statements are TRUE:**
    A. tiagabin is contraindicated in focal seizures
    B. zonisamide activates the sodium channels
    C. topiramate may induce glaucoma
    D. phenobarbital is used primarily in the treatment of status epilepticus
    E. pregabalin has few drug interactions
    F. divalproex sodium is a combination of sodium valproate and valproic acid
    G. pregabalin has a lot of drug interactions
    H. oxcarbazepine activates the sodium channels
    I. vigabatrin is associated with visual field loss
    J. phenytoin decreases the metabolism of contraceptives

49. **The following are selective serotonin reuptake inhibitors:**

A. paroxetine
B. citalopram
C. venlafaxine
D. sertraline
E. bupropion
F. imipramine
G. fluoxetine
H. fluvoxamine
I. vilazodone
J. amitriptyline

50. **The following are atypical antidepressants:**

A. bupropion
B. vortioxetine
C. mirtazapine
D. maprotiline
E. trazodone
F. desipramine
G. duloxetine
H. desvenlafaxine
I. vilazodone
J. escitalopram

51. **The following are tricyclic antidepressants:**

A. duloxetine
B. sertraline
C. maprotiline
D. amitriptyline
E. doxepine
F. imipramine
G. tranylcypromine
H. nefazodone
I. isocarboxazid
J. desipramine

52. **The following are selective serotonin norepinephrine inhibitors:**

A. fluvoxamine
B. imipramine
C. doxepine
D. duloxetine
E. lovomilnacipran
F. desvenlafaxine
G. tranylcypromine
H. trazodone
I. milnacipran
J. venlafaxine

53. **The following statements are TRUE:**

A. bupropion is a weak dopamine and norepinephrine reuptake inhibitor
B. in high doses venlafaxine may increase the heart rate
C. trazodone may produce hypertension
D. selective serotonin reuptake inhibitors increase the concentrations of the neurotransmitter in the synaptic cleft
E. duloxetine may be used in patients with liver disfunctions
F. bupropion is indicated in the treatment of bulimia
G. tricyclic antidepressants are effective in relieving pain
H. nefazodone has been associated with a risk for hepatotoxicity
I. mirtazapine decreases serotonin and norepinephrine neurotransmission
J. paroxetine is an enzyme inducer

54. **The following statements are TRUE:**

A. bupropion stimulates the dopamine and norepinephrine reuptake
B. mirtazapine may produce agitation
C. mirtazapine may produce agitation
D. tricyclic antidepressants have only few side effects
E. mirtazapine enhances serotonin and norepinephrine neurotransmission
F. tricyclic antidepressants also block serotonergic, α-adrenergic, histaminic, and muscarinic receptors
G. in high doses desvenlafaxine may increase the blood pressure
H. amitriptyline may be used in the treatment of neuropathic pain
I. bupropion should be avoided in bulimia
J. selective serotonin reuptake inhibitors are contraindicated in obsessive–compulsive disorders

55. **The following statements are TRUE:**
    A. selective serotonin reuptake inhibitors reduce the concentrations of the neurotransmitter in the synaptic cleft
    B. bupropion is also useful attenuating withdrawal symptoms of nicotine
    C. in high doses venlafaxine may decrease the blood pressure
    D. doxepin can be used to treat insomnia
    E. in high doses desvenlafaxine may increase the heart rate
    F. duloxetine may induce hypotension
    G. mirtazapine may decrease the appetite
    H. amitriptyline is used to help prevent migraine headache
    I. selective serotonin reuptake inhibitors are also indicated in premenstrual dysphoric disorder
    J. bupropion has a high risk for drug–drug interactions

56. **The following statements are TRUE:**
    A. trazodone also blocks the histamine H1 receptors
    B. fluoxetine is approved for the treatment of bulimia
    C. tricyclic antidepressants may produce bradycardia
    D. the monoamine oxidase inhibitors decrease the concentration of norepinephrine and serotonin in the synaptic cleft
    E. phenelzine is a selective serotonin reuptake inhibitor
    F. selective serotonin reuptake inhibitors have the potential to cause serotonin syndrome
    G. fluoxetine has a short half-life
    H. bupropion has a very low incidence of sexual dysfunction
    I. mirtazapine may induce weight gain
    J. duloxetine may induce bradycardia

57. **The following statements are TRUE:**
    A. fluoxetine is an enzyme inducer
    B. tricyclic antidepressants may produce weight loss
    C. milnacipran may be used in the treatment of fibromyalgia
    D. tricyclic antidepressants may be indicated in patients with benign prostatic hyperplasia
    E. fluoxetine has a long half-life
    F. mirtazapine has antimuscarinic side effects
    G. the monoamine oxidase inhibitors have low risk of drug-food interactions
    H. selective serotonin norepinephrine inhibitors are effective in relieving pain
    I. bupropion should be avoided in patients at risk for seizures
    J. all antidepressants may lower the seizure threshold

58. **The following statements are TRUE:**
    A. the monoamine oxidase inhibitors are the first line agents in depressed patients
    B. tricyclic antidepressants have higher incidence of sexual dysfunctions than the selective serotonin reuptake inhibitors
    C. citalopram may cause QT prolongation
    D. bupropion should be avoided in patients at risk for seizures
    E. selective serotonin reuptake inhibitors may induce sexual dysfunctions
    F. tricyclic antidepressants may produce agitation
    G. duloxetine should be avoided in patients with liver dysfunction
    H. bupropion has a very high incidence of sexual dysfunction
    I. trazodone has been associated with priapism
    J. mirtazapine has a high risk of sexual dysfunctions

59. **Serotonin syndrome may include:**
    A. bradycardia
    B. myoclonus
    C. changes in mental status
    D. muscle rigidity
    E. hypothermia
    F. dry mouth
    G. sedation
    H. sweating
    I. hyperthermia
    J. constipation

60. **The following statements are TRUE:**
    A. lithium is contraindicated in bipolar psychosis
    B. the treatment with lithium may induce ataxia
    C. lithium has low toxicity
    D. lithium may be used in patients with renal impairment
    E. in high doses lithium may induce convulsions
    F. lithium has a high therapeutic index
    G. lithium is indicated in the treatment of mania and hypomania
    H. polydipsia, polyuria, polyphagia are side effects of lithium
    I. thyroid function may be decreased during the treatment with lithium
    J. lithium is contraindicated in patients with hepatic impairment

61. **The following are first generation of antipsychotic agents:**
A. clozapine
B. thioridazine
C. aripiprazole
D. chlorpromazine
E. perphenazine
F. iloperidone
G. pimozide
H. haloperidol
I. lurasidone
J. quetiapine

62. **The following are second generation of antipsychotics:**
A. olanzapine
B. asenapine
C. aripiprazole
D. ziprazidone
E. fluphenazine
F. haloperidol
G. loxapine
H. prochlorperazine
I. pimozide
J. risperidone

63. **The following statements are TRUE:**
A. second-generation agents are generally used as first-line therapy for schizophrenia
B. haloperidol has low risk of extrapyramidal manifestations
C. clozapine has risk for myocarditis
D. chlorpromazine also blocks histamine H1 receptors
E. many of second-generation antipsychotics are effective in treating the negative symptoms of schizophrenia
F. the second-generation antipsychotics may be used in patient with diabetes mellitus
G. the treatment with first-generation antipsychotics is frequently associated with extrapyramidal symptoms
H. antipsychotics may be indicated in patients with patients with seizure disorders
I. haloperidol is a low potent antipsychotic agent
J. the first-generation antipsychotic drugs stimulate dopamine D2 receptors

64. **The following statements are TRUE:**
A. thioridazine may induce the QT prolongation
B. the treatment with second generation antipsychotics is associated with a higher risk of metabolic adverse effects
C. pimozide is primarily indicated for treatment of the motor and phonic tics of Tourette disorder
D. chlorpromazine is a high potent antipsychotic agent
E. antipsychotics may induce weight loss
F. haloperidol is a high sedating agents
G. dantrolene is used in the treatment of neuroleptic malignant syndrome
H. aripiprazole has high potential for extrapyramidal effects
I. ziprazidone is contraindicated in bipolar depression
J. most of the second-generation agents exert part of their action through inhibition of serotonin receptors

65. **The following statements are TRUE:**
A. prochlorperazine are useful in the treatment of drug-induced nausea
B. chlorpromazine also stimulates alpha receptors
C. thioridazine is more potent than haloperidol
D. ziprazidone has a high risk for weight gain
E. risperidone is approved for autistic disorder in children
F. antipsychotics may induce sexual dysfunctions
G. clozapine does not act on the dopamine receptors
H. the first-generation antipsychotics are generally most effective in treating the positive symptoms of schizophrenia
I. haloperidol has strong anticholinergic effects
J. thioridazine also blocks the muscarine receptors

66. **The following statements are TRUE:**
A. chlorpromazine produces anticholinergic effects
B. the first-generation antipsychotics are generally most effective in treating the negative symptoms of schizophrenia
C. lurasidone is indicated for the treatment of bipolar depression
D. neuroleptic malignant syndrome is a potentially fatal reaction to antipsychotic drugs
E. ziprazidone may be indicated in patients with cardiac arrhythmia
F. the antipsychotics are contraindicated in the treatment of schizophrenia
G. risperidone is contraindicated in children
H. antipsychotics that block D2 receptors may cause a decrease in prolactin release
I. aripiprazole is used as adjunctive agent with antidepressants for treatment-refractory depression
J. clozapine can produce bone marrow suppression

67. **The following statements about antipsychotic drugs are TRUE:**

A. clozapine is effective in non-responsive schizophrenic patients
B. clozapine has low risk of side effects
C. second-generation agents are generally used as last-line therapy for schizophrenia
D. are used primarily to treat schizophrenia
E. the antipsychotic drugs do not influence the decrease the intensity of hallucinations and delusions
F. clozapine can produce bone marrow suppression
G. the second-generation antipsychotic drugs owe their unique activity to blockade of both serotonin and dopamine receptors
H. the antipsychotic drugs are not effective manic states
I. are not curative and do not eliminate chronic thought disorders
J. first-generation antipsychotics are not associated with movement disorders

68. **The following are TRUE:**

A. all antipsychotic drugs can reduce positive symptom in schizophrenia
B. antipsychotics do not influence the sexual activity
C. many antipsychotic agents also block cholinergic, adrenergic, and histaminergic receptors
D. weight loss is a common adverse effect of antipsychotics
E. apathy and impaired attention are negative symptoms in schizophrenia
F. the antipsychotic drugs have antiemetic effects that are mediated by blocking D2 receptors of the chemoreceptor trigger zone of the medulla
G. the antipsychotics also alter temperature-regulating mechanisms
H. hallucinations and delusions era negative symptoms in schizophrenia
I. in the pituitary, antipsychotics that block D2 receptors may cause a decrease in prolactin release
J. the first-generation antipsychotics strongly reduce the negative symptoms in schizophrenia

69. **The following statements are TRUE:**

A. the cyclooxygenase pathway is the unique pathway in the synthesis of eicosanoids from arachidonic acid
B. the lipoxygenase pathway is the unique pathway in the synthesis of eicosanoids from arachidonic acid
C. the prostaglandins actions are mediated by G-coupled protein receptors in cell membranes
D. prostacyclin produced by endothelial cells, produces vasoconstriction
E. prostacyclin produced by endothelial cells, stimulates platelet aggregation
F. NSAIDs act through inhibition of the synthesis of prostaglandins
G. prostaglandins have a major role in modulating pain, inflammation, and fever
H. arachidonic acid is the primary precursor of the prostaglandins and related compounds
I. the release of thromboxane A2 produces local vasodilation
J. thromboxanes and leukotrienes are synthesized from the same precursors as the prostaglandins

70. **The following statements are TRUE:**

A. COX-1 is a constitutive enzyme
B. the expression of COX-2 is decreased during states of chronic inflammation
C. prostaglandins have a role only in modulation of inflammation
D. actions of prostaglandins are mediated by their binding to a variety of distinct G-coupled protein receptors in cell membranes
E. the expression of COX-2 is induced by inflammatory mediators like TNF-α and IL-1
F. COX-2 is involved in gastric cytoprotection
G. COX-1 is a inducible enzyme
H. the expression of COX-2 is pharmacologically stimulated by glucocorticoids
I. COX-2 is expressed in the brain, kidney, and bone
J. COX-1 is responsible for the physiologic production of prostanoids

71. **The following statements are TRUE:**

A. prostaglandins control the acid secretion and mucus production in the gastrointestinal (GI) tract, uterine contractions, and renal blood flow
B. acetaminophen has strong anti-inflammatory effect
C. acetaminophen has weak antipyretic effect
D. aspirin exhibits anti-inflammatory activity only at low doses
E. aspirin is used at lower doses to prevent cardiovascular events
F. NSAIDs have no effect on normal body temperature
G. diflunisal is a derivative of salicylic acid
H. aspirin is a reversible inhibitor of cyclooxygenase activity
I. ketorolac is used for severe pain
J. NSAIDs cannot be combined with opioids

72. **The following statements about Aspirin are TRUE:**

A. in high doses has antiplatelet effects
B. has only analgesic and antipyretic activity
C. inactivates the both COX-1 and COX-2
D. at lower doses it is used to prevent cardiovascular events
E. may induce gastric bleeding
F. exhibit analgesic activity at lower doses
G. does not produce hypersensitivity reactions
H. it is a reversible inhibitor of cyclooxygenase activity
I. has anti-inflammatory activity only at relatively high doses
J. may be used in children

73. **The following statements are TRUE:**
A. NSAIDs facilitate the remission of arthritis
B. NSAIDs are used mainly for the management of mild to moderate pain arising from musculoskeletal disorders
C. the inhibition of COX-2 is responsible for the analgesic activity of NSAIDs
D. NSAIDs have no effect on normal body temperature
E. NSAIDs stimulate the transmission of nociceptive impulses
F. acetaminophen has low analgesic and antipyretic effects
G. NSAIDs do not arrest the progression of the inflammation in arthritis nor induce remission
H. NSAIDs decrease heat dissipation through peripheral vasodilation
I. acetaminophen has strong anti-inflammatory activity
J. NSAIDs lower body temperature in patients with fever by impeding PGE2 synthesis and release

74. **The following statements are TRUE:**
A. diclofenac is contraindicated for topical use
B. celecoxib is a selective COX-2 inhibitor
C. aspirin is used acutely to reduce the risk of death in acute myocardial infarction
D. piroxicam is a selective COX-2 inhibitor
E. aspirin could be associated with probenecid
F. aspirin should be avoided in children with viral infection due to the risk of Reye syndrome
G. Reye syndrome can cause fulminating hepatitis and cerebral edema
H. salicylates weakly bind to plasma proteins
I. diflunisal is a salicylate drug
J. salicylates reduce the plasma concentration of oral anticoagulants

75. **The following statements are TRUE:**
A. NSAIDs could be used in patients with asthma
B. NSAIDs also inhibit the synthesis of leukotrienes
C. aspirin can displace valproic acid, resulting in higher free concentration of the drug
D. salicylates are roughly 80% to 90% plasma protein bound
E. salicylates my increase the toxicity of sulphonylureas
F. celecoxib irreversible blocks the COX-2
G. NSAIDs could be used without risk in pregnancy
H. in high doses aspirin may induce metabolic alkalosis
I. aspirin can displace phenytoin, resulting in higher free concentration of the drug
J. patients with severe hypersensitivity to aspirin should avoid using NSAIDs

76. **The following inhibit more selective COX-2:**
A. etodolac
B. piroxicam
C. aspirin
D. ibuprofen
E. ketorolac
F. meloxicam
G. indomethacin
H. tolmentin
I. celecoxib
J. diclofenac

77. **The following inhibit more selective COX-1:**
A. flurbiprofen
B. ketoprofen
C. meloxicam
D. naproxen
E. ketorolac
F. piroxicam
G. celecoxib
H. etodolac
I. diclofenac
J. indomethacin

78. **The following statements are TRUE:**
A. NSAIDs reduce the beneficial effects of antihypertensive medications.
B. celecoxib may be used in patient with severe renal disease
C. celecoxib has high gastrointestinal irritant effects
D. aspirin could be associated with NSAIDs
E. salicylates cross the placenta
F. NSAIDs induce retention of sodium and water
G. NSAIDs with a higher relative selectivity for COX-1 have a lower risk for gastrointestinal irritation
H. diflunisal produces more intense gastrointestinal irritations than aspirin
I. celecoxib has high risk of stroke
J. misoprostol should be used concomitantly to prevent NSAID-induced ulcers

79. **The following statements are TRUE:**

A. NSAIDS may increase the beneficial effects of antihypertensive medications
B. aspirin reduces the bleeding time
C. celecoxib has low risk of myocardial infarction
D. concomitant use of NSAIDs and aspirin can prevent aspirin from binding to cyclooxygenase
E. celecoxib is associated with less GI bleeding and dyspepsia than other NSAIDs
F. salicylates do not influence the uric acid excretion
G. aspirin is often withheld for at least 1 week prior to surgery
H. salicylates cross the blood brain barrier
I. proton pump inhibitors should be used concomitantly to prevent NSAID-induced ulcers
J. celecoxib may be used in patient with severe hepatitis

80. **The following statements about acetaminophen are TRUE:**

A. does not affect platelet function
B. has strong effect on cyclooxygenase in peripheral tissues
C. has strong anti-inflammatory activity
D. is a NSAID
E. increase bleeding time
F. inhibits prostaglandin synthesis in the central nervous system
G. N-acetylcysteine is an antidote in cases of overdose
H. is the analgesic/antipyretic of choice for children with viral infections
I. in high doses may produce hepatic necrosis
J. is contraindicated in patients with gastric complaints/risks with NSAIDs

81. **The following statements about methotrexate are TRUE:**

A. may be used in pregnancy
B. has no gastrointestinal irritant effects
C. is a disease-modifying antirheumatic drug
D. has immunosuppressive and anti-inflammatory effects
E. is a folic acid agonist
F. the therapeutic response usually occurs within few days after the onset of the treatment
G. the therapeutic response usually occurs within 3 to 6 weeks of starting treatment
H. may induce leukopenia
I. supplementation with folic acid may improve tolerability of methotrexate
J. doses required for rheumatoid arthritis treatment are much higher than those needed in cancer chemotherapy

82. **The following statements about hydroxychloroquine are TRUE:**

A. may induce irreversible retinal damage
B. the onset of effects takes 6 weeks to 6 months
C. has less adverse effects on the immune system than other antirheumatic agents
D. may produce skin discoloration
E. it is indicated in late severe cases of rheumatoid arthritis
F. the effects appear rapidly after the start of the treatment
G. can not be associated with methotrexate
H. is indicated in gout
I. is a disease-modifying antirheumatic drug
J. has more severe liver toxicity than other antirheumatic agents

83. **The following statements are TRUE:**

A. leflunomide may induce hyperkalemia
B. leflunomide may be used patients with liver diseases
C. methotrexate is generally administered once weekly
D. leflunomide may induce alopecia
E. methotrexate does not produce liver toxicity
F. hydroxychloroquine may induce central nervous system disturbances
G. the onset of activity of sulfasalazine is 1 to 3 months
H. hydroxychloroquine is indicated in severe cases of rheumatoid arthritis
I. sulfasalazine may induce leukopenia
J. glucocorticosteroids are contraindicated in rheumatoid arthritis

84. **The following statements are TRUE:**

A. leflunomide is an immunomodulatory agent
B. TNF-α inhibitor reduce progression of structural damage in rheumatoid arthritis
C. infliximab is indicated for monotherapy
D. TNF-α inhibitors and non-TNF biologic agents should not be used together
E. tocilizumab is a recombinant monoclonal antibody
F. leflunomide may be used as monotherapy in patients who have contraindications to use of methotrexate in rheumatoid arthritis
G. leflunomide can not be associated with methotrexate
H. leflunomide is a stimulator of dihydroorotate dehydrogenase
I. adalimumab is a TNF-α inhibitor
J. patients receiving biologic disease-modifying antirheumatic drug are at low risk for infections

85. **The following statements are TRUE:**

A. probenecid is an uricostatic agent
B. colchicine may induce aplastic anemia
C. pegloticase is a recombinant form of the enzyme urate oxidase
D. febuxostat is a last-line urate lowering agent
E. probenecid may be indicated in patients with gout and severe kidney function impairment
F. corticosteroids may be used in acute gout
G. colchicine must be administered within 36 hours of the gout attack onset to be effective
H. allopurinol is a xanthine oxidase inhibitor
I. colchicine is indicated in the chronic treatment of gout
J. colchicine is an uricosuric agent

86. **The following statements are TRUE:**

A. intra-articular administration of corticosteroids (when only one or two joints are affected) is also appropriate in the acute gout
B. colchicine may induce alopecia
C. probenecid is an uricosuric agent
D. allopurinol is an effective urate-lowering therapy in the treatment hyperuricemia secondary to renal disease
E. NSAIDs are contraindicated in acute goute
F. colchicine has anti-inflammatory activity in gout
G. pegloticase is a xanthine oxidase inhibitor
H. febuxostat is a xanthine stimulator
I. pegloticase may be used in allergic patients with gout
J. probenecid stimulates the proximal tubular reabsorption of uric acid

87. **The following statements are TRUE:**

A. the loss of inhibitory effect of dopamine results in more production of acetylcholine
B. Parkinson`s disease is associated with an increase of dopamine actions in the corpus striatum
C. therapy in Parkinson`s disease is aimed at reducing the concentration of dopamine in the basal ganglia
D. drugs that stimulate the dopamine receptors in the brain, may produce parkinsonian symptoms
E. phenothiazines may induce pseudoparkinsonism
F. therapy in Parkinson`s disease is aimed at stimulating the effects of cholinergic neurons
G. Parkinson`s disease is characterized by extrapiramidal manifestations
H. dopamine easily crosses the blood brain barrier
I. Parkinson`s disease is correlated with destruction of dopaminergic neurons in the substantia nigra
J. the anti Parkinsonian agents do not arrest or reverse the neuronal degeneration caused by the disease

88. **The following statements are TRUE:**

A. carbidopa increases the severity of adverse effects of levodopa arising from peripherally formed dopamine
B. levodopa should not be associated with carbidopa
C. levodopa may induce tachycardia and ventricular extrasystole
D. levodopa can cause depression and psychosis
E. carbidopa is a dopamine decarboxylase stimulator
F. carbidopa increases the availability of levodopa to the central nervous system
G. in new patients, the therapeutic response to levodopa is low
H. levodopa may induce hypertension
I. carbidopa lowers the dose of levodopa needed
J. levodopa may induce hypotension

89. **The following statements are TRUE:**

A. selegiline is a monoamine oxidase type A inhibitor
B. at recommended doses selegiline has little potential for causing hypertensive crises.
C. selegiline decreases dopamine levels in the brain
D. concomitant administration of levodopa and nonselective monoamine oxidase inhibitors can produce a hypertensive crisis
E. rasagiline is less potent than selegiline
F. in many psychotic patients, levodopa exacerbates symptoms
G. selegiline decreases the actions of levodopa
H. rasagiline has amphetamine-like effects
I. the association of selegiline substantially reduces the required dose of levodopa
J. selegiline has amphetamine-like effects

90. **The following statements are TRUE:**

A. carbidopa inhibits the peripheral dopamine decarboxylase activity
B. the catechol-O-methyltransferase inhibitors increase the brain concentration of dopamine
C. entacapone is an inhibitor of catechol-O-methyltransferase
D. entacapone has severe liver toxicity
E. tolcapone may induce hepatic necrosis
F. selegiline is an inhibitor of catechol-O-methyltransferase
G. the catechol-O-methyltransferase inhibitors decreased central uptake of levodopa
H. the catechol-O-methyltransferase inhibitors reduce the symptoms of “wearing-off” effects of levodopa
I. tolcapone is a stimulator of catechol-O-methyltransferase
J. tolcapone has short duration of action

91. **The following statements are TRUE:**

A. pramipexole is an ergot dopamine agonist
B. bromocriptine is indicated in patients with Parkinson`s disease and peripheral vascular disease
C. bromocriptine is an ergot derivative
D. apomorphine is used in severe and advanced stages of Parkinson`s disease
E. dopamine receptor agonists agents are effective in patients exhibiting fluctuations in response to levodopa
F. bromocriptine may produce pulmonary fibrosis
G. rotigotine is administered as a once-daily transdermal patch
H. ropinirole is a dopamine receptor antagonist
I. bromocriptine is indicated in patients with Parkinson`s disease and myocardial infarction
J. rotigotine is contraindicated in Parkinson`s disease

92. **The following are dopamine agonists:**

A. aripiprazole
B. ziprazidone
C. thioridazine
D. pramipexole
E. apomorphine
F. chlorpromazine
G. haloperidole
H. bromocriptine
I. rotigotine
J. ropinirole

93. **The statements about dopamine agonists are TRUE:**

A. have shorter duration than levodopa
B. may induce hypertension
C. may produce hallucinations
D. may induce nausea
E. are very efficient in patients who have not responded to levodopa
F. bromocriptine is effective in patients with Parkinson disease complicated by dyskinesias
G. exacerbate the peripheral vascular disorders
H. may be used in patients with mental diseases
I. adverse effects severely limit their utility
J. apomorphine is used in severe and advanced stages of the disease to supplement oral medications

94. **The statements about amantadine are TRUE:**

A. increases the release of dopamine
B. is more efficient than levodopa
C. stimulates the cholinergic receptors
D. may cause hallucinations
E. is contraindicated in patients with Parkinson`s disease
F. is an antiviral drug
G. may induce hypertension
H. at high doses, it may induce acute toxic psychosis
I. the tolerance develops less readily than for levodopa
J. inhibits the N-methyl-D-aspartate receptors

95. **The following statements are TRUE:**

A. the antimuscarinic agents may be used in patients with glaucoma
B. the antimuscarinic agents can induce mood changes
C. benztropine is contraindicated in Parkinson`s disease
D. the antimuscarinic agents are much more efficacious than levodopa in Parkinson`s disease
E. rotigotine is available as transdermal delivery systems for Parkinson`s disease
F. amantadine blocks the cholinergic receptors
G. the antimuscarinic agents play only an adjuvant role in antiparkinsonism therapy
H. ropinirole is an ergot dopamine agonist
I. trihexyphenidyl is used in Parkinson`s disease
J. with dopamine agonists dyskinesias are more frequent than with levodopa

96. **The following skeletal muscle relaxants:**

A. riluzole
B. dantrolen
C. diazepam
D. zolpidem
E. drotaverine
F. succinylcholine
G. zaleplon
H. phenobarbital
I. baclofen
J. butylscopolamine

97. **The statement about skeletal muscle relaxants are TRUE:**
A. riluzole is a spasmolytic drug
B. baclofen is a muscle relaxant
C. baclofen blocks the NMDA receptors
D. riluzole is contraindicated in amyotrophic lateral sclerosis
E. succinylcholine is a depolarizing muscle relaxant
F. succinylcholine is used during electroconvulsive shock treatment
G. succinylcholine is contraindicated for endotracheal intubation
H. at high doses, the benzodiazepines relax the spasticity of skeletal muscle
I. cisatracurium is a non-depolarizing neuromuscular blocker
J. mivacurium is a depolarizing muscle relaxant

98. **The statement about dantrolene is TRUE:**
A. is used in neuroleptic malignant syndrome
B. is used in malignant hyperthermia
C. acts centrally
D. increases the muscle tone
E. blocks release of Ca2+ from the sarcoplasmic reticulum of muscle cells
F. blocks the chloride channel
G. the patient treated with dantrolene must be monitored and supported for respiratory, circulatory, and renal problems
H. is a muscle relaxant
I. is a spasmolytic drug
J. stimulates the GABA-A receptor

99. **The following statements are TRUE:**
A. infliximab is usually indicated for monotherapy
B. leflunomide my produce flu-like syndrome
C. the TNF-α inhibitors are indicated in rheumatoid arthritis
D. leflunomide is hepatotoxic
E. corticosteroids significantly reduce inflammation associated with rheumatoid arthritis
F. azathioprine is contraindicated in rheumatoid arthritis
G. monoclonal antibodies are contraindicated in rheumatoid arthritis
H. the onset of activity of sulfasalazine is 1 to 3 months
I. leflunomide may be indicated in pregnancy
J. tocilizumab is a TNF-α inhibitor

100. **The following drugs are indicated in rheumatoid arthritis:**
A. colchicine
B. methotrexate
C. gold salts
D. lithium
E. aminoglycosides
F. anakinra
G. tofacitinib
H. probenecid
I. cyclosporine
J. allopurinol

101. **The following drugs are indicated in gout:**
A. hydroxychloroquine
B. leflunomide
C. sulfasalazine
D. adalimumab
E. allopurinol
F. probenecid
G. etanercept
H. colchicine
I. indomethacin
J. corticosteroids

102. **The following statements are TRUE:**
A. uricosuric drugs decrease the excretion of uric acid
B. chronic administration of colchicine may lead to myopathy
C. febuxostat may be used in patients with cardiovascular diseases
D. gout is characterized by hyperuricemia
E. pegloticase is indicated for patients with gout who fail treatment with standard therapies
F. colchicine is used in acute gout attack
G. xanthine oxidase inhibitors reduce the synthesis of uric acid
H. allopurinol is a xanthine oxidase stimulator
I. probenecid stimulates the proximal tubular reabsorption of uric acid
J. allopurinol is contraindicated in the treatment of hyperuricemia secondary to renal diseases

103. **The following statements are TRUE:**
A. growth hormone is produced by posterior pituitary gland
B. the hypothalamus connects the nervous system with the endocrine system via the pituitary gland
C. hormones of the anterior pituitary are usually administered orally
D. thyroid-stimulating hormone is produced by anterior pituitary gland
E. pituitary hormone preparations have limited therapeutic applications
F. follicle-stimulating hormone is a hypothalamic hormone
G. prolactine is a hormone produced by posterior pituitary gland
H. the hormones of the anterior pituitary are regulated by “releasing” or “inhibiting” hormones
I. corticotropin is a hypothalamic hormone
J. pituitary hormone preparations are currently used for specific hormonal deficiencies

104. **The following statements are TRUE:**
A. cortisol stimulates the release of the adrenocorticotropic hormone
B. stress stimulates the release of the adrenocorticotropic hormone
C. ACTH is synthetized in the adrenal gland
D. corticotropin-releasing hormone is used diagnostically to differentiate between Cushing syndrome and ectopic ACTH-producing cells
E. in the adrenocorticosteroid pathway are synthesized and released adrenal androgens
F. in the adrenocorticosteroid pathway are synthesized and released only adrenocorticosteroids
G. ACTH is released from the pituitary in high concentration late evening
H. ACTH is a product of the proopiomelanocortin precursor
I. proopiomelanocortin is synthetized in the adrenal gland
J. ACTH is released from the pituitary in high concentration early morning

105. **The following statements are TRUE:**
A. ACTH is also used in the treatment of multiple sclerosis
B. ACTH binds to receptors on the pituitary gland
C. ACTH may induce peripheral edema
D. ACTH acts on the adrenal gland
E. corticotropin is used a diagnostic tool for differentiating between primary and secondary adrenal insufficiency
F. ACTH is also used in the treatment of infantile spasms
G. proopiomelanocortin is released by the hypotalamus
H. ACTH is released continuously from the pituitary
I. ACTH may induce hyperkaliemia
J. ACTH may induce hypotension

106. **The following statements are TRUE:**
A. somatropin may be used in patients with diabetic retinopathy
B. somatropin may be used in pediatric patients with closed epiphyses
C. growth hormone is released in high levels during sleep
D. somatropin is used in the treatment growth failure in children
E. somatropin is produced by recombinant DNA technology
F. in adults the growth hormone decreases lean body mass
G. growth hormone is released in high levels in the morning
H. in adults the growth hormone increases the adipose tissue
I. somatotropin is released by the anterior pituitary
J. growth hormone is inhibited by the somatostatin

107. **The following statements are TRUE:**
A. octreotide may induce tachycardia
B. octreotide may induce constipation
C. somatostatin suppresses the thyroid-stimulating hormone release
D. octreotide is a synthetic analog of somatostatin
E. octreotide is an analog of somatotropin
F. octreotide may induce cholesterol gallstones
G. somatostatin stimulates the release of insulin
H. octreotide is indicated in the treatment of acromegaly
I. octreotide has a shorter half-life than somatostatin
J. octreotide is used in the treatment of bleeding esophageal varices

108. **The following statements are TRUE:**
A. ganirelix is a gonadotropin-releasing hormone analog
B. gonadotropin-releasing hormone analogs increase the libido
C. continuous administration of leuprolide suppresses the production of FSH and luteinizing hormone
D. ganirelix inhibits the luteinizing hormone secretion
E. leuprolide is contraindicated in endometriosis
F. leuprolide is a synthetic gonadotropin-releasing hormone analog
G. cetrorelix is a gonadotropin-releasing hormone antagonist
H. gonadotropin-releasing hormone is secreted by the pituitary gland
I. leuprolide is contraindicated in prostate cancer
J. leuprolide is indicated in precocious puberty

109. **The following statements are TRUE:**

A. the secretion of prolactin is stimulated by dopamine D2 receptors agonists
B. gonadotropins are produced in the hypothalamus
C. the primary function of prolactin is to stimulate and maintain lactation
D. follitropins are human FSH products manufactured using recombinant DNA technology
E. human chorionic gonadotropin may produce multiple births
F. menotropins are obtained from urine of postmenopausal women
G. hyperprolactinemia is associated with galactorrhea and hypogonadism
H. human chorionic gonadotropin decreases the ovarian size
I. prolactin increases the sexual drive
J. human chorionic gonadotropin is obtained from urine of postmenopausal women

110. **The following statements are TRUE:**

A. vasopressin and oxytocin have long half life
B. oxytocin may induce hypotension
C. oxytocin produces uterine relaxation
D. vasopressin is contraindicated in septic shock
E. desmopressin is indicated in the treatment of diabetes insipidus
F. oxytocin is used to induce labor.
G. vasopressin may induce hyponatremia
H. vasopressin has both antidiuretic and vasopressor effects
I. the nasal spray with desmopressin is used for enuresis in children
J. vasopressin and oxytocin are hormones of the posterior pituitary

111. **The following statements are TRUE:**

A. levothyroxine may induce bradycardia
B. levothyroxine may induce weight loss
C. most patients become hypothyroid after radioactive iodine and require treatment with levothyroxine.
D. hypothyroidism is diagnosed by low thyroid stimulating hormone levels
E. thyroid hormones are not absorbed after oral administration
F. hypothyroidism usually results from autoimmune destruction of the gland
G. in the cell, triiodothyronine is enzymatically deiodinated to thyroxine
H. food can decrease the absorption of thyroxine
I. high levels of circulating thyroid hormone increases the secretion of thyroid stimulating hormone
J. phenobarbital may decrease the effectiveness of thyroid hormones

112. **The following statements are TRUE:**

A. Graves disease is the most common cause of hyperthyroidism
B. high levels of circulating thyroid hormone stimulate the thyrotropin-releasing hormone
C. propylthiouracil is hepatotoxic
D. thyroid function is controlled by thyrotropin
E. propylthiouracil stimulates the thyroid hormone synthesis
F. hyperthyroidism can cause bradycardia
G. hypothyroidism may cause mental retardation in children
H. methimazole has a shorter half-life than propylthiouracil
I. levothyroxine is indicated in the treatment of hypothyroidism
J. levothyroxine is indicated in the treatment of hyperthyroidism

113. **The following statements are TRUE:**

A. insulin is secreted from β cells in the islets of Langerhans
B. glucagon is secreted from β cells in the islets of Langerhans
C. type 2 diabetes has low genetic predisposition
D. the onset of type 2 diabetes is usually during childhood
E. the pancreas produces insulin, glucagon, and somatostatin
F. the onset of type 1 diabetes is usually during childhood or puberty
G. type 1 diabetes is characterized by the inability of β cells to produce appropriate quantities of insulin
H. in type 2 diabetes obesity is usually present
I. type 2 diabetes is characterized by an absolute deficiency of insulin due to destruction of β cells
J. type 2 diabetes is characterized by the insulin resistance

114. **The following statements are TRUE:**

A. type 1 diabetes is treated with oral antidiabetic medication
B. the use of home blood glucose monitors facilitates frequent self-monitoring and treatment with insulin
C. a higher average glucose result in a lower HbA1c
D. the rate of formation of HbA1c is proportional to the average
E. blood glucose concentration over the previous day.
F. type 2 diabetes is characterized by a lack of sensitivity of target organs to insulin
G. glycosylated hemoglobin is used to monitor diabetes in clinical practice
H. in type 2 diabetes the patient has an increased glucose uptake in the muscle
I. glycosylated hemoglobin is a marker of overall glucose control
J. the goals in treating type 2 diabetes is to control blood glucose and to prevent the development of long-term complications

115. **The following statements about insulin are TRUE:**

A. may induce lipodystrophy at the site of injection
B. may be also administered inhalatory
C. may be administered as continuous subcutaneous infusion
D. inhaled insulin may be used in smokers
E. is generally administered orally
F. human insulin is produced by recombinant DNA technology
G. in a hyperglycemic emergency, regular insulin is administered intravenously
H. may induce weight loss
I. inhaled insulin may be used in patients with asthma
J. may induce hyperglycemia

116. **The following statements are TRUE:**

A. sulfonylureas may induce weight loss
B. glucagon-like peptide-1 receptor agonists are used for the treatment of type 2 diabetes
C. sulfonylureas are insulin secretagogues
D. glucagon-like peptide-1 receptor agonists may induce weight gain
E. pramlintide may be mixed in the same syringe with insulin
F. pramlintide is indicated as an adjunct to mealtime insulin therapy
G. pramlintide is a synthetic amylin analog
! H. pramlintide is indicated in patient with diabetic gastroparesis
I. exenatide may be used in patients with severe renal impairment
J. SGLT2 inhibitors may induce urinary infections

117. **The following are glucagon-like peptide-1 receptor agonists:**

A. glyburide
B. lixisenatide
C. glimepiride
D. liraglutide
E. exenatide
F. repaglinide
G. albiglutide
H. sitagliptine
I. semaglutide
J. pramlintide

118. **The following statements about glucagon-like peptide-1 receptor agonists are TRUE:**

A. may be used in patient with thyroid pathology
B. increase the postprandial glucagon secretion
C. are administered injectable
D. reduce the postprandial hyperglycemia
E. the combination with insulin may decrease daily insulin requirements
F. may induce the weight loss
G. increase the gastric emptying time
H. decrease the glucose-dependent insulin secretion
I. have been associated with pancreatitis
J. are used for the treatment of type 1 diabetes

119. **The following statements about sulfonylureas are TRUE:**

A. diuretics may potentiate their effects
B. clarithromycine may potentiate their effects
C. decrease the peripheral insulin sensitivity
D. stimulate the insulin release from the β cells of the pancreas
E. are administered injectable
F. may induce weight loss
G. corticosteroids may reduce their effects
H. stimulate the ATP-sensitive K+ channels
I. may reduce hepatic glucose production
J. beta-blockers may potentiate their effects

120. **The following statements about glinides are TRUE:**

A. have a rapid onset and a short duration of action
B. may be used in combination with sulfonylureas
C. repaglinide may be associated with the lipid-lowering drug gemfibrozil
D. stimulate insulin secretion
E. may induce weight loss
F. may be indicated in patients with hepatic impairment
G. are categorized as postprandial glucose regulators
H. may induce hypoglycemia
I. are usually administered after the meals
J. include repaglinide and nateglinide

121. **The following statements about metformin are TRUE:**

? A. decreases glucose uptake and use by target tissues
B. increases the intestinal absorption of sugars
C. may be used in patients with renal impairment
D. may induce weight gain
E. is considered the initial drug of choice for type 2 diabetes
? F. the risk of hypoglycemia is far less than that with sulfonylureas
G. decreases the insulin resistance
H. may induce lactic acidosis
I. increases the hepatic gluconeogenesis
J. long-term use may be associated with vitamin B12 deficiency

122. **The following statements about thiazolidinediones are TRUE:**

A. are agonists of the peroxisome proliferator–activated receptor-γ
B. can not be associated with insulin
C. may be indicated in diabetic patients with cardiac failure
D. may induce fluid retention
E. include pioglitazone and rosiglitazone
F. are hepatotoxic
G. increase the insulin resistance
H. stimulate the release of insulin from the β cells
I. may induce weight loss
? J. have been associated with osteopenia and increased fracture risk in women

123. **The following statements about sodium–glucose cotransporter 2 inhibitors are TRUE:**

A. may induce hypertension
B. may be indicated in diabetic in patients with renal dysfunction
C. should be used with caution in alcoholic patients
D. increase the reabsorption of sodium
E. may induce ketoacidosis
F. are administered injectable
G. include canagliflozin, dapagliflozin, empagliflozin, and ertugliflozin
H. increase urinary glucose excretion
I. may induce genital mycotic infections in women
J. increase the reabsorption of glucose in the kidney

124. **The following statements about dipeptidyl peptidase-4 inhibitors are TRUE:**

A. may be associated with glucagon-like peptide-1 receptor agonists
B. reduces inappropriate secretion of glucagon in response to meals
C. can not be associated with insulin
D. may be indicated in diabetic patients with cardiac failure
E. decrease the release of insulin in response to meals
F. may be associated with sulfonylureas
G. include alogliptin, linagliptin, saxagliptin and sitagliptin
H. can not be associated with metformin
I. are used for the treatment of type 2 diabetes
J. may induce joint pain

125. **The following statements about α-glucosidase inhibitors are TRUE:**

A. may cause hypoglycemia when used as monotherapy
B. include acarbose and miglitol
C. may induce constipation
D. lower postprandial glucose levels
E. may induce hypoglycemia when associated with insulin
F. are used in diabetic patients with inflammatory bowel disease
G. stimulate the digestion of carbohydrates
H. may induce abdominal cramping
I. may induce flatulence
J. are administered after the meal

126. **The following statements are TRUE:**

A. sex hormones are synthesized from the precursor, cholesterol
B. oxandrolone is an antiandrogen
C. clomiphene is a selective estrogen-receptor modulator
D. danazol is an estrogen
E. flutamide is an antiandrogen
F. drospirenone is an estrogen
G. estradiol is an estrogen
H. estrogens and androgens are sex hormones produced by the gonads
I. norethindrone is a progesteron antagonist
J. mifepristone is an androgen

127. **The following are progestogens:**

A. estradiol

[✓ B. norethindrone]

[✓ C. levonorgestrel]

D. mifepristone

E. clomiphene

[✓ F. norgestrel]

[✓ G. medroxyprogesterone]

H. methyltestosterone

I. raloxifene

[✓ J. etonogestrel]

128. **The following are androgens:**

A. drospirenone

[✓ B. oxandrolon]

[✓ C. danazol]

[✓ D. testosteron]

E. norgestrel

[✓ F. methyltestosterone]

[✓ G. fluoxymesteron]

H. progesteron

I. tamoxifen

J. ethinyl estradiol

129. **The following statements are TRUE:**

[✓ A. estrogens are most frequently used for postmenopausal hormone therapy]

B. postmenopausal estrogens are contraindicated in vaginal atrophy

[✓ C. estrogens have a low risk of cardiovascular events]

[✓ D. estriol is present in significant amounts during pregnancy]

[✓ E. estradiol is the most potent estrogen produced and secreted by the ovary]

F. estrone is the principal estrogen in premenopausal women

G. estrogens are contraindicated in postmenopausal women

H. estrone is synthesized by the placenta

[✓ I. estrogens have a high risk for thromboembolic events]

[✓ J. estrogens have a high risk for breast cancer]

130. **The following statements are TRUE:**

A. raloxifene may be used in women with history of venous thromboembolic events

[✓ B. raloxifene has a high risk for pulmonary embolism]

[✓ C. the most frequent adverse effects of tamoxifen are hot flashes and nausea]

[✓ D. clomiphene increases the risk of multiple gestation]

[✓ E. clomiphene is used in the treatment of infertility]

[✓ F. tamoxifen may induce endometrial hyperplasia]

G. the use or clomiphen may reduce the ovary size

H. raloxifene is contraindicated in the treatment of osteoporosis in postmenopausal women

I. tamoxifen is contraindicated in metastatic breast cancer

J. tamoxifen has no drug interactions

131. **The following statements are TRUE:**

[✓ A. mifepristone is used to induce uterine contractions]

B. drospirenone may induce hypokaliemia

C. progestogens are contraindicated in dysmenorrhea

[✓ D. progestogens may induce depression]

[✓ E. progesterone is produced in response to luteinizing hormone by both females and males]

[✓ F. progestogens are used for contraception and for hormone replacement therapy]

G. mifepristone is a progestogen

[✓ H. mifepristone may induce uterine bleeding]

I. progestogens are contraindicated in endometriosis

J. progestogens may induce weight loss

132. **The following statements are TRUE:**

A. medroxyprogesterone acetate is indicated in osteoporosis

B. etonogestrel implant offers contraception for one week

C. medroxyprogesterone acetate may induce weight loss

[✓ D. progestin-only pills are used in patients have intolerance or contraindications to estrogen-containing products]

[✓ E. a combination of estrogen and progestin is the most common type of oral contraceptive]

F. progestin-only pills are more effective than combination oral contraceptives

[✓ G. progestin-only pills usually contain norethindrone]

H. progestin-only pills are contraindicated in patients who are breastfeeding

[✓ I. the use of progestin-only pills is associated with irregular menstrual cycles]

[✓ J. the most common method of emergency contraception usesa single high dose of levonorgestrel]

133. **The following about oral contraceptives are TRUE:**

A. progestin-only contraceptives are preferred in older women who are smokers
B. are associated with a high risk of ovarian cancer
C. may increase the incidence of cervical cancer
D. progestin in contraceptives thickens the cervical mucus, thus hampering the transport of sperm
E. estrogen containing contraceptives may be indicated in women who are over age 35 and smoke
F. may have interactions with antibiotics
G. progestin in contraceptives stimulates luteinizing hormone secretion
H. drugs that induce the CYP3A4 isoenzyme significantly increase their efficiency
I. may be used in pregnancy
J. estrogen in contraceptives provides negative feedback which blunts release of follicle stimulating hormone by the pituitary

134. **The following statements are TRUE:**

A. danazol is contraindicated in endometriosis
B. the androgens are required for increased bone resorption
C. danazol increases the breast size
D. the androgens are required for increased synthesis of muscle proteins and hemoglobin
E. androgenic steroids are used for femes with primary or secondary hypogonadism
F. anabolic steroids can be used to treat chronic wasting associated cancer
G. the androgens are required for sperm production
H. danazol decrease the libido
I. the androgens are required for decreased bone resorption
J. the androgens are required for normal maturation in the male

135. **The following statements are TRUE:**

A. the excess of androgen can cause impotence in males
B. increased aggression
C. the androgens reduce the growth of the prostate
D. high doses of androgens taken by young athletes may result in increasing of testicular size
E. the androgens can decrease serum LDL-cholesterol
F. the androgens can cause premature closing of the epiphyseal plates in children
G. flutamide is indicated in the treatment of prostate cancer
H. high doses of androgens taken by young athletes may result in
I. the androgens decrease the muscle development in women
J. the androgens can cause growth of facial hair in women

136. **The following statements are TRUE:**

A. glucocorticoids are involved with metabolism and response to stress
B. glucocorticoids have potent anti-inflammatory action
C. the peak of cortisol secretion is in the late afternoon
D. mineralocorticoids are responsible for regulating salt and water metabolism
E. glucocorticoid insufficiency may result in hypoglycemia
F. the middle zona fasciculata synthesizes mineralocorticoids
G. cortisol is the principal human glucocorticoid
H. glucocorticosteroids inhibit the lipolysis
I. glucocorticoids decrease hepatic glucose production
J. the outer zona glomerulosa produces glucocorticoids

137. **The following statements are TRUE:**

A. elevated aldosterone levels may decrease the blood volume
B. pro-inflammatory cytokines
C. glucocorticoids have potent immunosuppressive activities
D. glucocorticoids increase the production and release of
E. aldosterone acts on mineralocorticoid receptors in the distal tubules and collecting ducts in the kidney
F. elevated aldosterone levels may cause alkalosis
G. aldosterone decreases the sodium reabsorption
H. adequate cortisol levels are essential for normal glomerular filtration
I. elevated aldosterone levels may increase the blood pressure
J. aldosterone increases reabsorption of potassium

138. **The following statements are TRUE:**

A. hydrocortisone is contraindicated in secondary adrenocortical insufficiency
B. chronic treatment with high doses of glucocorticoids is a frequent cause of iatrogenic Cushing syndrome
C. corticosteroids are used as replacement therapy for primary adrenocortical insufficiency
D. hydrocortisone is contraindicated in tertiary adrenocortical insufficiency
E. fludrocortisone is a potent synthetic mineralocorticoid
F. corticosteroids do not influence the inflammation associated with rheumatoid arthritis
G. dexamethasone suppresses cortisol release in patients with Cushing syndrome
H. congenital adrenal hyperplasia is associated with a decreased production of adrenal androgens
I. dexamethasone suppression test is used to diagnose Cushing syndrome
J. betamethasone is used in women in preterm labor to accelerate fetal lung maturation

139. **The following statements are TRUE:**

A. dexamethazone is administered only injectable
B. fluticasone is administered inhallatory
C. busedonide is administered injectable
D. prednisone is preferred in pregnancy because it minimizes steroid effects on the fetus
E. Fluticasone is contraindicated in allergic rhinitis
F. betamethazone is administered only topical
G. corticosteroids are used in the treatment of exacerbations of asthma
H. removal of corticosteroids causes acute adrenal insufficiency
I. triamcinolone is administered only inhallatory
J. triamcinolone may be administered intra-articular

140. **The following statements are TRUE:**

A. glucocorticoids increase sex hormone synthesis
B. topical therapy with corticoids can cause skin atrophy
C. glucocorticoids increase the intestinal Ca2+ absorption
D. common adverse effects of long-term corticosteroid therapy are often dose related
E. cataract may also occur with long-term corticosteroid therapy
F. corticoids may induce the centripetal distribution of body fat
G. corticoids may induce hypoglycemia
H. glucocorticoids inhibit bone formation
I. glucocorticoids are used in the treatment of osteoporosis
J. corticoids may induce hypotension

141. **The following statements are TRUE:**

A. spironolactone is contraindicated in liver cirrosis
B. spironolactone is used in the management of hirsutism in women
C. spironolactone is used in the treatment of hyperaldosteronism
D. spironolactone antagonizes the aldosterone synthesis
E. ketoconazole is contraindicated in patients with Cushing syndrome
F. spironolactone competes for the mineralocorticoid receptor
G. ketoconazole inhibits the adrenal steroid hormone synthesis
H. spironolactone stimulates sodium reabsorption in the kidney
I. spironolactone stimulates the testosterone synthesis
J. ketoconazole stimulates the gonadal hormone synthesis

142. **The following are side effects of spironolactone:**

A. hypotension
B. hypertension
C. skin rashes
D. hyperkalemia
E. hypokaliemia
F. urinary retention
G. hypernatremia
H. gynecomastia
I. menstrual irregularities
J. hirsutism

143. **The following statements are TRUE:**

A. long term use of corticosteroids may induce diabetes
B. corticosteroids may cause hyperkaliemia
C. fludrocortisone is contraindicated in Addison`s disease
D. corticosteroids can be used in the management of inflammatory bowel disease
E. glucocorticoids suppress the hypothalamic–pituitary–adrenal axis
F. corticosteroids may be used in the treatment of glaucoma
G. corticosteroids may increase the appetite
H. corticosteroids can increase blood pressure
I. dexamethasone is used in the treatment of Cushing syndrome
J. corticosteroids stimulate the bone growth in children

144. **The following statements are TRUE:**

A. osteomalacia is a disorder characterized by hardening of the bones
B. osteomalacia in children is referred to as rickets
C. patients with osteoporosis have an increased risk of fractures
D. bone mineralization has low importance for bone strength
E. osteomalacia is most often attributed to vitamin D excess
F. Paget disease generally affects all the bones
G. osteoporosis is characterized by progressive loss of bone mass and skeletal fragility
H. bone remodeling serves to maintain calcium homeostasis
I. Paget disease is a disorder of bone remodeling that results in disorganized bone formation
J. osteoporosis occurs most frequently in young women

145. **The following statements are TRUE:**

A. patients at risk for osteoporosis should avoid glucocorticoids
B. vitamin D does not influence absorption of calcium and bone health
C. adverse effects of calcium supplementation include gas and bloating
D. calcium carbonate is an inexpensive and commonly used calcium supplement
E. calcium does not interfere with absorption of iron
F. calcium citrate not very well tolerated
G. supplementation with vitamin D2 or D3 is used for treatment of osteoporosis
H. calcium may interfere with absorption of tetracyclines
I. calcium does not interfere with absorption of thyroid replacement agents
J. preparations

146. **The following drugs that can contribute to bone loss or increased fracture risk:**

A. phenytoin
B. furosemid
C. selective serotonin reuptake inhibitors
D. proton pump inhibitors
E. calcium
F. raloxifene
G. vitamin D
H. heparin
I. timolol
J. biphosphonates

147. **The following statements are TRUE:**

A. etidronate is contraindicated in bone metastases
B. bisphosphonates should be avoided in severe renal impairment
C. bisphosphonates bind to hydroxyapatite crystals in the bone
D. bisphosphonates increase osteoclastic bone resorption
E. beneficial effects of alendronate persist a short period of time
F. ibandronate is indicated in hypercalcemia of malignancy
G. alendronate is used for the treatment of postmenopausal osteoporosis
H. pamidronate is contraindicated in Paget disease
I. bisphosphonates decrease the risk of fractures in patients with osteoporosis
J. food does not significantly interfere with absorption of oral bisphosphonates

148. **The following statements are TRUE:**

A. alendronate is administered intravenous daily
B. etidronate has higher antiresorptive activity
C. biphosphonates may induce abdominal pain
D. risendronate is administered yearly
E. zolendronic acid is contraindicated in patients unable to tolerate oral bisphosphonates
F. biphosphonates may induce osteonecrosis of the jaw
G. biphosphonates may induce musculoskeletal pain
H. alendronate may induce esophagitis
I. in osteoporosis zolendronic acid is administered daily
J. for patients unable to tolerate oral bisphosphonates, intravenous ibandronate is an alternative

149. **The following statements are TRUE:**

A. teriparatide inhibits the osteoblastic activity
B. teriparatide may induce hypertension
C. teriparatide increases bone formation and bone strength
D. raloxifene is used as an alternative to bisphosphonates the treatment of postmenopausal osteoporosis
E. calcitonin in more effective than other agents in the treatment of osteoporosis
F. a unique property of calcitonin is relief of pain associated with osteoporotic fracture
G. teriparatide is a recombinant form of human parathyroid hormone
H. calcitonin increases the drug bone resorption
I. teriparatide may induce hypocalcemia
J. raloxifene has estrogen-like effects on bone

150. **The following statements are TRUE:**

A. Metformin improves peripheral glucose uptake
B. Pioglitazone can be used as a second- or third-line agent for type 2 diabetes
C. Glinides are hepatotoxic agents
D. The duration of action of sulfonylureas ranges from 12 to 24 hours
E. SGLT2 decrease urinary glucose excretion
F. α-Glucosidase inhibitors do not stimulate insulin release
G. Metformin is recommended in renal dysfunction
H. Thiazolidinediones can be used in heart failure
I. The glinides have a long duration of action
J. DPP-4 inhibitors decrease the risk of severe joint pain

151. **Choose the correct statements:**
- A. Opioids do not influence the brain's perception of pain.
- B. Codeine is a strong opioid agonist.
- C. Opioids achieve presynaptic inhibition of neurotransmitter release.
- D. Codeine has a higher potency compared to morphine.
- ? E. Morphine increases the release of substance P, which modulates pain perception at the medullary level.
- F. Morphine decreases the release of substance P, which modulates the perception of pain at the medullary level.
- G. Codeine is a weak opioid agonist.
- H. Morphine is a strong opioid receptor agonist.
- I. The main analgesic substance contained in raw opium is morphine.
- J. Morphine has high affinity for κ receptors.

152. **The correct answers are:**
- A. Morphine stimulates the cough reflex.
- B. One of the pain-reducing mechanisms of opioids is to lower the pain threshold in the spinal cord.
- C. By stimulating the δ receptors, morphine causes miosis.
- D. Morphine relieves pain without loss of consciousness.
- E. Fentanyl has high analgesic efficacy.
- F. Morphine has no antitussive properties.
- G. Codeine is an opioid agonist with moderate efficacy.
- H. Morphine is an opioid agonist with moderate efficacy.
- I. Administering opioids to an individual without pain causes unpleasant effects (nausea and vomiting).
- J. Opioids alter the brain's perception of pain.

153. **The following statements about pain are correct:**
- A. The drugs of choice in severe pain are nonsteroidal anti-inflammatory drugs.
- B. Pain relief depends on the specific type of pain (nociceptive or neurogenic).
- C. Opioids are mainly used to relieve mild pain.
- D. It is a subjective feeling.
- E. Neurogenic pain responds best to non-steroidal anti-inflammatory drugs.
- F. Tricyclic antidepressants cannot be used in the treatment of neuropathic pain.
- G. It can be acute or chronic.
- H. Mild arthritic pain is nociceptive pain.
- I. Neurogenic pain responds best to anticonvulsants.
- J. Pain has an objective character.

154. **The correct statements about opioid receptors are:**
- A. Opioid receptors are of two types: μ and δ receptors.
- B. Enkephalins selectively interact with δ receptors in the periphery.
- C. The three types of opioid receptors belong to the G protein-coupled receptor family.
- D. Nalbuphine produces analgesic effects mainly through the activation of δ-type opioid receptors.
- E. The activation of opioid receptors causes an increase in the presynaptic influx of Ca2+ ions, the consequence being the decrease in the release of excitatory neurotransmitters.
- F. The analgesic properties of opioids are mainly mediated by δ receptors. ←
- G. Butorphanol produces analgesic effects mainly through the activation of κ-opioid receptors.
- H. Activation of opioid receptors decreases the postsynaptic efflux of K+ ions.
- I. The three receptor families μ, κ and δ mediate the main effects of opioids.
- J. The analgesic properties of opioids are mainly mediated by μ receptors.

155. **The following compounds are opioid receptor agonists:**
- A. Ibuprofen
- B. Methadone
- C. Morphine
- D. Heroin
- E. Naloxone
- F. Acetaminophen
- G. Fentanyl
- H. Naltrexone
- I. Nalmefene
- J. Oxycodone

156. **About the cardiovascular actions of morphine, the following are correct:**
- A. May cause hypotension even at low doses
- B. May cause hypotension at high doses
- C. Does not significantly alter heart rate at low doses
- D. Morphine is indicated in individuals with severe brain injuries
- E. It does not significantly change blood pressure at low doses
- F. Significantly alters heart rate at low doses
- G. Morphine is usually contraindicated in individuals with severe skull or brain injuries
- H. Significantly alters blood pressure at low doses
- I. It frequently produces bradycardia at low doses
- J. May produce bradycardia at high doses

157. **The following are true about meperidine:**
A. It is used for the treatment of acute pain
B. It is indicated long-term for the treatment of chronic pain
C. It produces pupillary dilation due to an anticholinergic action
D. It has no significant cardiovascular effects when administered orally
E. It is clinically useful for the treatment of diarrhea or cough
F. Combination with major antipsychotic drugs leads to marked worsening of depression
G. It is a natural opioid, structurally similar to morphine
H. Induces extreme miosis
I. It is a synthetic opioid, structurally different from morphine
J. It cannot be administered orally due to poor absorption from the GI tract

158. **The following are true about buprenorphine:**
A. It can cause respiratory depression that is not easily countered by naloxone
B. Withdrawal symptoms are more severe and last longer compared to methadone
C. It is administered only transdermally
D. It is administered sublingually, parenterally or transdermally
E. May cause withdrawal syndrome if given to people receiving chronic morphine treatment
F. One of the main therapeutic indications is opioid detoxification
G. May cause respiratory depression that can be easily countered by naloxone
H. Partial antagonist at the level of μ receptors
I. Strong agonist at μ receptors
J. It has a short duration of action

159. **Choose the true statements from the following:**
A. Codeine decreases the sensitivity of the cough center (from the CNS) to peripheral stimuli and reduces secretions at the level of mucous membranes.
B. Morphine can be used as an expectorant in the cough of allergic asthma.
C. Codeine and dextromethorphan are equally effective in fighting cough.
D. At therapeutic doses for the antitussive effect, codeine can produce side effects such as constipation, dysphoria, fatigue and addiction.
E. Dextromethorphan also has analgesic effects at therapeutic antitussive doses.
F. Dextromethorphan is a synthetic derivative of morphine, which inhibits the activity of the cough center.
G. Codeine has the same therapeutic actions as morphine, minus the analgesic and antitussive action.
H. Dextromethorphan has a low risk of addiction, but it can produce dysphoria at high doses, which explains its inclusion in the list of drugs that can be abused.
I. Dextromethorphan has expectorant effects at high doses.
J. Codeine represents the therapeutic gold standard in cough with copious secretions, due to its long history of use and increased availability.

160. **The following statements about opioid receptors are correct:**
A. Methadone acts as an N-methyl-D-aspartate (NMDA) receptor agonist and is used in the treatment of neuropathic pain
B. Opioid receptors μ, k and δ are found strictly at the level of structures in the central nervous system
C. Naloxone is a competitive μ, k and δ receptor antagonist used to rapidly reverse opioid-induced respiratory depression
D. Morphine acts at k (kappa) receptors in the posterior horns of the spinal cord and decreases substance P release
E. k (kappa) opioid receptors in the dorsal horns of the spinal cord do not contribute to the analgesic effect of opioids
F. δ (delta) receptors in the dorsal horns of the spinal cord have the main effect of mediating analgesia
G. The analgesic properties of opioids are mainly mediated by μ (mu) receptors
H. Following stimulation of the μ and k receptors in the eyeball, morphine causes the pupil to appear punctate
I. Binding of ligands to opioid receptors causes membrane hyperpolarization and thus stimulation of the generation of action potentials
J. The analgesic properties of opioids are mainly mediated by δ (delta) receptors

161. **The following statements about potent opioid receptor agonists are correct:**
A. Meperidine produces pupillary dilation due to its anticholinergic action
B. Due to its agonist action on N-methyl-D-aspartate (NMDA) receptors, methadone can be used to combat neuropathic pain
C. Fentanyl has an analgesic potency 100 times lower than that of morphine
D. In an individual without pain, opioids can cause unpleasant effects such as nausea and vomiting
E. The euphoric effects of morphine are caused by inhibition of dopaminergic neurons in the ventral tegmentum
F. The euphoric effect of heroin is much reduced compared to that of morphine
G. Morphine is used to achieve controlled abstinence in methadone abusers
H. Morphine is the first-line analgesic in patients with severe brain injury
I. Oxycodone has a stronger analgesic effect than morphine after oral administration
J. Morphine produces respiratory depression by reducing the sensitivity of neurons in the respiratory center to carbon dioxide

162. **The following statements about opioid receptor agonists are true:**

A. Only a small percentage of the administered amount of morphine crosses the blood-brain barrier
B. Codeine has adequate antitussive activity at doses that do not produce analgesia
C. The receptors involved in the antitussive action of opioids appear to be different from those involved in their analgesic action
D. Fentanyl is contraindicated in cardiac surgery because of its negative inotropic effects
E. Metabolism products of Meperidine are highly neurotoxic
F. The analgesic effect of dextromethorphan is superior to that of codeine
G. Morphine induces histamine release from mast cells, causing urticaria, sweating, vasodilatation and bronchoconstriction
H. Oral administration of morphine ensures a superior therapeutic response compared to other routes of administration (intramuscular, subcutaneous, intravenous)
I. Repeated administration of morphine does not cause tolerance to the analgesic, euphoric and constipating effect
J. Opioids reduce the perception of pain by lowering the pain threshold in the spinal cord

163. **About opioid receptor antagonists, the following statements are true:**

A. Tapentadol is an antagonist of ▯ receptors, being used in the treatment of coma induced by opioid overdose
B. Opioid withdrawal syndrome may manifest as muscle stiffness, bradycardia, and hypotension
C. Naloxone is used to treat coma and respiratory depression caused by opioid overdose
D. Naloxone has a minimal effect of counteracting the analgesic effects obtained following the administration of opioids
E. Naloxone binds to opioid molecules attached to receptors and thus may exacerbate respiratory depression caused by morphine overdose
F. The first effects of opioid withdrawal syndrome are represented by the state of anxiety and the compelling desire to use the drug
G. Naltrexone has a longer duration of action than naloxone, blocking the effects of injected heroin for up to 48 hours
H. Opioid withdrawal syndrome does not include gastrointestinal symptoms
I. Opioid receptor antagonists bind with high affinity to them, only partially activating them
J. Opioid receptor antagonists trigger withdrawal syndrome in opioid-dependent patients

164. **The following statements are true:**

A. Meperidine is the opioid of choice for long-term treatments
B. Physical and psychological dependence is very difficult to meet in the case of morphine consumption
C. The duration of action of morphine is 4-6 hours when administered systemically to individuals who have not received this agent before
D. Meperidine binds to delta receptors
E. Absorption of morphine from the GI tract is slow and irregular.
F. Tricyclic antidepressants do not interact with opioids
G. The severe respiratory depression that occurs in case of opioid overdose can be fatal
H. Morphine should be used with caution in patients with bronchial asthma, hepatic and renal insufficiency
I. When morphine is administered orally, prolonged-release preparations are usually used to ensure greater stability of the plasma concentration
J. Methadone poisoning is more serious than heroin poisoning

165. **The following statements are true:**

A. Opioids significantly change heart rate
B. Morphine is the drug of choice in chemotherapy-induced nausea
C. The euphoria produced by morphine could be caused by the disinhibition of dopaminergic neurons in the ventral segment
D. Pupils with a punctate appearance are a feature of his morphine treatment
E. It exerts its effects through interactions with opioid receptors in the CNS, the gastrointestinal tract and the urinary bladder
F. Morphine and codeine are contraindicated in dry cough because they cause bronchospasm
G. Morphine overdose produces dyspnea, due to the stimulated effect on the respiratory center
H. The main effects of opioids are mediated by three families of receptors, μ, k, and o (delta).
I. Morphine produces diarrhea and dysentery by decreasing intestinal motility
J. they are mainly used to relieve severe pain

166. **Choose the true statements:**

A. Concomitant administration of benzodiazepines and ethanol causes cross-tolerance.
B. Diazepam is contraindicated in the treatment of spasticity in multiple sclerosis.
C. Lorazepam and diazepam are long-acting benzodiazepines.
D. Diazepam is useful in the treatment of skeletal muscle spasms.
E. Oxazepam is a long-acting benzodiazepine.
F. Alprazolam causes withdrawal syndrome in 30% of patients.
G. Alprazolam is the drug of choice for the suppression of grand mal epileptic seizures.
H. For the anxiolytic effects of benzodiazepines, tolerance is more difficult to develop.
I. Triazolam is not effective in patients with difficulty falling asleep.
J. Flurazepam is a short-acting benzodiazepine.

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167. **The following statements are true:**
A. Tachycardia and palpitations are some of the physical symptoms of severe anxiety.
B. Anti-anxiety medications do not produce sedation.
C. Psychotherapy can be used in the treatment of severe anxiety.
D. Anxiety is an unpleasant state of restlessness, tension and discomfort.
E. Barbiturates are safer and more effective than benzodiazepines in the treatment of anxiety.
F. The most commonly used anxiolytic drugs in the treatment of anxiety are barbiturates.
G. Anxiety disorders are the most common mental disorders.
H. Mild anxiety episodes require treatment.
I. Manifestations of chronic anxiety can be treated with anxiolytics.
J. Benzodiazepines have antipsychotic activity.

168. **It is true that:**
A. The targets of benzodiazepines are receptors for γ-aminobutyric acid (GABA-A).
B. At low doses, benzodiazepines relax spastic skeletal muscle.
C. Benzodiazepines inhibit the attachment of GABA to receptors.
D. Benzodiazepines manifest their anxiolytic effects at high doses.
E. Benzodiazepines increase the frequency with which chloride channels open under the action of GABA.
F. GABA is the main inhibitory neurotransmitter in the central nervous system.
G. Benzodiazepines reduce anxiety by selectively reducing GABAergic transmission in neurons whose GABA-A receptors contain the α2 subunit.
H. Baclofen affects spinal GABAergic receptors.
I. Benzodiazepines produce hypnosis at low doses.
J. The attachment of GABA to the receptors causes a chloride channel to open, which leads to hyperpolarization of the cell.

169. **The following statements are true:**
A. Baclofen is a muscle relaxant, which is thought to affect spinal GABAergic receptors.
B. Benzodiazepines can be used for long periods of time in the treatment of persistent severe anxiety.
C. At low doses, benzodiazepines have anxiolytic and analgesic activity.
D. Benzodiazepines can be used to treat extreme anxiety in individuals with a fear of flying.
E. Benzodiazepines are recommended for combating normal everyday stress.
F. Benzodiazepines are contraindicated in the treatment of anxiety accompanying some forms of schizophrenia.
G. Benzodiazepines impair learning ability.
H. Prolonged treatment with benzodiazepines can cause dependence.
I. All benzodiazepines used in the treatment of anxiety have sedative properties.
J. Benzodiazepines affect the autonomic nervous system.

170. **The following can be said about benzodiazepines:**
A. Benzodiazepines have no antipsychotic activity and do not affect the autonomic nervous system
B. Alprazolam is considered to be effective for the short-term treatment of panic disorders
C. The localizations of benzodiazepine receptors in the CNS are similar to those of neurons that release GABA (γ-aminobutyric acid)
D. Thiopental is a benzodiazepine with muscle relaxant effect that acts specifically at a2-GABAA receptors
E. Diazepam can be used in the treatment of skeletal muscle spasticity caused by neurodegenerative diseases
F. Flurazepam causes an increase in periods of REM and slow wave sleep
G. All benzodiazepines have sedative properties and some can produce hypnosis
H. At doses lower than those required for the sedative effect, benzodiazepines relax spastic skeletal muscles
I. Benzodiazepines have a low therapeutic index, the lethal dose being more than 1000 times higher than the therapeutic dose
J. Triazolam is used in cases of insomnia caused by the inability to maintain sleep, being used in patients who wake up frequently during the night

171. **The following statements about benzodiazepines are true:**
A. Benzodiazepines shorten REM and slow-wave sleep
B. Flurazepam may cause daytime sedation due to its long half-life (approximately 85 hours)
C. Ataxia and motor incoordination occur at relatively low doses of benzodiazepines, but are rarely side effects
D. All benzodiazepines cross the placental barrier and may inhibit CNS activity in the newborn
E. Flurazepam causes the lowest incidence of reactive insomnia after discontinuation of benzodiazepines
F. Bezodiazepines with short half-lives induce withdrawal reactions that are less severe than those seen with slow-elimination agents
G. Benzodiazepine overdose is frequently fatal, especially in combination with other CNS stimulants
H. Benzodiazepines can be safely administered to breastfeeding women as these drugs are not excreted in breast milk
I. Triazolam is a long-acting benzodiazepine used to treat sleep disorders
J. Benzodiazepine withdrawal syndrome is manifested by confusion, anxiety, restlessness, insomnia and rarely seizures

172. **The following statements about anxiolytic medication are true:**

A. Midazolam is a benzodiazepine used for the induction of anesthesia
B. Lorazepam has a low therapeutic potency for the suppression of epileptic seizures and status epilepticus
C. Benzodiazepines enhance GABA-ergic transmission, thereby inhibiting neural circuits in the limbic system
D. Benzodiazepines relax spastic skeletal muscle by enhancing presynaptic inhibition at the level of motor plates
E. Barbiturates, due to their increased safety and efficacy profile, have largely replaced benzodiazepines in the treatment of anxiety
F. The risk of developing dependence is lower for selective serotonin reuptake inhibitors compared to benzodiazepines
G. Flumazenil is a GABA receptor agonist administered i.v. in case of convulsive seizures
H. Buspirone is not used as short-term therapy in acute anxiety states
I. In patients requiring long-term benzodiazepine treatment, the use of long-acting agents is preferable

173. **The following statements about anxiolytic medication are true:**

A. Barbiturate withdrawal syndrome is less severe than opioid withdrawal
B. Barbiturates raise the pain threshold, having important analgesic properties
C. Buspirone causes sedation and minimal psychomotor and cognitive dysfunction compared to benzodiazepines
D. Phenobarbital is contraindicated in patients with tonic-clonic seizures because it may lower the seizure threshold
E. Barbiturates block the respiratory stimulation of chemoreceptors, and their overdose leads to respiratory depression
F. Buspirone exhibits benzodiazepine-like anticonvulsant and muscle relaxant activity
G. Phenobarbital is used with caution in children, as it may reduce cognitive performance
H. The CNS inhibitory effect of barbiturates is strongly antagonized by the euphoric effect of ethanol
I. Thiopental is a barbiturate with a very short duration of action, being administered i.v. for induction of anesthesia
J. At progressively increasing doses, barbiturates induce hypnosis, followed by anesthesia, coma and death

174. **The following statements about anesthetics are true:**

A. Opioids produce a satisfactory degree of amnesia, but may cause hypertension and muscle hypotonia
B. Naloxone is an opioid receptor agonist, often used in combination with anesthetics for its increased analgesic effect
C. The most important factors influencing the duration of action of local anesthetics are the tissue pH and the pKa value of the drug
D. Propofol is frequently used in low doses to provide sedation during outpatient procedures
E. Barbiturates are of choice for their anesthetic effect in patients with acute porphyria
F. Hypothermia, advanced age, pregnancy and sepsis decrease the minimum alveolar concentration of inhaled anesthetics
G. Local anesthetics cause vasoconstriction, thus shortening the duration of the effect at the injection site
H. Isoflurane has the highest degree of liver and kidney toxicity among inhalation anesthetics
I. The use of ketamine is contraindicated in hypertensive patients or patients with stroke
J. Volatile anesthetics are the main component of anesthesia and are mainly used during the maintenance period of anesthesia

175. **The following are true about benzodiazepines:**

A. They have antipsychotic activity
B. At high doses it relaxes spastic skeletal muscles
C. They can affect the ability to learn and form new memories
D. All benzodiazepines used to treat anxiety have sedative properties
E. They are anxiolytic in small doses
F. All benzodiazepines used to treat anxiety have hypnotic properties
G. They have analgesic activity
H. They have no anticonvulsant activity
I. Enhances the ability to learn and form new memories
J. Many benzodiazepines have anticonvulsant activity

176. **The following are true about the therapeutic indications of benzodiazepines:**

A. Tolerance occurs when the agent is used for at least 1-2 days
B. They are also useful for the treatment of anxiety that accompanies some forms of depression and schizophrenia.
C. They are indicated for combating normal daily stress
D. Diazepam is useful for the treatment of skeletal muscle spasms and spasticity in degenerative diseases
E. Tolerance is more difficult to develop for anxiolytic effects compared to sedative and hypnotic effects
F. Diazepam and lorazepam are drugs of choice for suppressing grand mal and status epilepticus seizures.
G. They are contraindicated as premedication for procedures such as endoscopy, bronchoscopy and certain dental interventions
H. Diazepam is rarely indicated for the treatment of seizures
I. All benzodiazepines are useful as hypnotic agents
J. Short-acting agents are often used as premedication for anxiety-producing or unpleasant procedures.

177. **The following are true about buspirone:**

A. It has muscle relaxant properties

B. It has a minimal sedative effect

C. The mechanism of action is different from that of benzodiazepines

D. It produces sedation and significant cognitive dysfunction

E. It is not useful in the short term or "as needed" for acute anxiety states

F. It has no anticonvulsant properties

G. It produces hyperthermia

H. May decrease prolactin and growth hormone levels

I. It is useful for the chronic treatment of generalized anxiety disorder

J. An advantage of buspirone is its rapid onset of action

178. **The following are true about barbiturates:**

A. Chronic treatment leads to tolerance

B. They decrease the activity of the CYP450 enzyme system and thus increase the duration of action of drugs inactivated by these liver enzymes

C. Thiopental has a long duration of action

D. At high doses they induce hypnosis, followed by anesthesia, coma and death

E. At low doses they produce sedation

F. They have analgesic properties

G. Chronic treatment does not lead to tolerance

H. They do not increase the threshold for pain and have no analgesic properties

I. The withdrawal syndrome is much less severe than that associated with opioids

J. They act on the GABA-A receptors

179. **The following statements about anesthetics are true:**

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A. Transient administration of nitric oxide to pregnant women may produce aplastic anemia in the fetus

B. Anesthetic agents administered i.v. they are usually used for rapid induction of anesthesia

C. Dantrolene is contraindicated in patients with increased susceptibility to malignant hyperthermia after exposure to halogenated hydrocarbons

D. Volatile anesthetics have a wide therapeutic index, so differences between anesthetic concentrations cause minimal effects

E. Isoflurane does not sensitize the heart to the action of catecholamines and does not induce cardiac arrhythmias

F. In the case of volatile anesthetics, it is not necessary to combine opioids to ensure analgesia

G. The free, non-ionized molecules of anesthetic administered i.v. cross the blood-brain barrier the hardest

H. Metabolism of anesthetics is increased in individuals with alcoholism, and drug users have increased tolerance to opioids

I. Nitric oxide has low analgesic properties, but is a very potent anesthetic

J. Halothane is vagomimetic and produces bradycardia responsive to atropine

180. **The following statements about anesthetics are true:**

A. Inhalation anesthetics decrease the activity of the respiratory system and act as bronchodilators

B. All halogenated volatile anesthetics can cause hepatitis, with halothane having the lowest risk

C. The potency of volatile anesthetics is defined quantitatively using the parameter called minimum alveolar concentration

D. Some anesthetics, such as Halothane, sensitize the heart to the arrhythmogenic effects of sympathomimetic agents

E. Thiopental is widely used and has replaced propofol as the agent of choice for induction and sedation

F. Halothane, administered i.v. has antiarrhythmic effects

G. Induction of general anesthesia is performed using an i.v. anesthetic. such as propofol

H. Barbiturates, such as Midazolam, exhibit significant analgesic action by enhancing the inhibitory effects of certain neurotransmitters

I. Stage III anesthesia is characterized by a severe decrease in the activity of the respiratory and vasomotor centers

J. Volatile anesthetics cause bronchospasm and increase the rate of spontaneous ventilations

181. **Choose the true statements:**

A. Carbamazepine is used as first-line treatment in generalized tonic-clonic seizures.

B. Epoxyramazepine is an inactive metabolite of carbamazepine.

C. Carbamazepine may cause hyponatremia in some elderly patients.

D. Nausea, vomiting, and sedation are some of the common side effects of anticonvulsant medications.

E. Absorption after oral administration of carbamazepine is rapid and regular.

F. Carbamazepine has an active metabolite.

G. Carbamazepine is an enzyme inhibitor of the CYP3A4 isoenzyme.

H. Carbamazepine is an enzyme inducer of CYP1A2, CYP2A4 and CYP2C isozymes.

I. Carbamazepine may be prescribed for patients with absence seizures.

J. After oral administration, carbamazepine has slow and irregular absorption.

182. **The following statements about gabapentin are true:**

A. It exhibits a non-linear pharmacokinetic profile.
B. It does not bind to plasma proteins.
C. Its capture from the intestine is carried out under the action of a saturable transport system.
D. Dose reduction is not recommended in renal disease.
E. It is excreted in the form of metabolites at the renal level.
F. It is an approved treatment as an adjunctive medication for partial seizures.
G. This drug has important pharmacokinetic drug interactions, which is why it is not recommended for elderly patients.
H. It acts on GABA receptors.
I. It can be used as therapy for postherpetic therapy.
J. It binds to plasma proteins.

183. **The true statements about levetiracetam are:**

A. Can be used in children.
B. It interacts with UGT (UDP-glucuronyl-transferase) enzyme systems.
C. Interacts with CYP enzyme systems.
D. It is approved as adjunctive treatment in generalized tonic-clonic seizures.
E. It is approved as adjunctive treatment in partial seizures.
F. It is contraindicated as adjunctive treatment in myoclonic seizures.
G. Absorption after oral administration is slow and irregular.
H. It is well absorbed after oral administration.
I. The most commonly reported adverse effects include skin rashes and hyponatremia.
J. Shows high affinity for a protein localized to synaptic vesicles (SV2A)

184. **Choose the correct answers regarding phenytoin:**

A. It is an enzyme inhibitor of the CYP2C enzyme family.
B. May cause nystagmus and ataxia in elderly patients.
C. The risk of severe toxicity is low.
D. The drug does not bind to plasma proteins.
E. It is contraindicated in status epilepticus.
F. Phenytoin blocks voltage-gated sodium channels.
G. It has an unknown mechanism of action.
H. It is effective in the treatment of partial seizures.
I. At very high concentrations, phenytoin also blocks voltage-gated calcium channels and interferes with the release of monoaminergic neurotransmitters.
J. A slight increase in the daily dose of phenytoin does not produce changes in plasma concentration.

185. **About the therapeutic indications of anticonvulsant agents, the following are true:**

A. Fosphenytoin is indicated in West Syndrome
B. Fosphenytoin is not indicated in status epilepticus
C. Topiramate and Levetiracetam are indicated for the control of simple partial seizures or complex partial seizures with or without secondary generalization
D. Levetiracetam is indicated in elderly patients with partial epilepsy
E. Lamotrigine is indicated in patients with absence seizures
F. Vigabatrin has a first-line indication in patients with tonic-clonic seizures in primary generalized epilepsy
G. Fosphenytoin is indicated in status epilepticus
H. Lamotrigine is indicated in elderly patients with partial epilepsy
I. Topiramate is indicated in Lennox-Gastaut syndrome
J. Lamotrigine is not indicated in patients with absence seizures

186. **The following are true about carbamazepine:**

A. It can cause hyponatremia especially in young people
B. If a characteristic skin rash occurs at the beginning of therapy, it is usually recommended to stop the administration
C. It is indicated as second-line treatment for generalized tonic-clonic seizures
D. It is effective for the treatment of partial seizures
E. It is also used to treat trigeminal neuralgia and bipolar disorder
F. It should be prescribed to patients with absence seizures, as it can cause a decrease in the number of seizures
G. In the elderly it is not as well tolerated as other available anticonvulsant drugs
H. It reduces the propagation of abnormal impulses at the brain level by blocking sodium channels
I. It reduces the propagation of abnormal impulses in the brain by blocking potassium channels
J. It has reduced effectiveness for the treatment of partial seizures

187. **The following are true about phenytoin and fosphenytoin:**

A. Administration of phenytoin cannot cause gingival hyperplasia
B. Phenytoin is effective for the treatment of generalized tonic-clonic seizures and status epilepticus
C. Phenytoin blocks voltage-gated potassium channels
D. Fosphenytoin can only be taken orally
E. Short-term treatment with phenytoin may produce peripheral neuropathy and osteoporosis
F. Even at very low concentrations, phenytoin also blocks voltage-gated calcium channels
G. In elderly patients, phenytoin administration may cause nystagmus and ataxia
H. Fosphenytoin is a precursor that is rapidly converted to phenytoin in the blood
I. At very high concentrations, phenytoin also blocks voltage-gated calcium channels
J. Phenytoin blocks voltage-gated sodium channels

188. **The following are true about valproic acid and divalproex:**

A. They are effective for the treatment of partial seizures and primary generalized seizures
B. They have no teratogenic effect
C. They are effective and recommended as first-line treatment in West Syndrome
D. All available salts (valproic acid and sodium valproate) have equivalent efficacy
E. It can rarely cause liver toxicity, manifested by increased plasma concentrations of liver enzymes
F. Valproate circulates in plasma unbound to albumin
G. Divalproex sodium is a combination of sodium valproate and valproic acid which is converted to valproate when it reaches the gastrointestinal tract.
H. It is recommended for women of reproductive age who wish to have children
I. It can often cause liver toxicity, manifested by increased plasma concentrations of liver enzymes
J. Valproate circulates in plasma bound to albumin (>90%), which may cause significant interactions with other drugs that circulate largely bound to plasma proteins.

189. **The following statements about anticonvulsant medication are true:**

A. Lamotrigine is poorly tolerated by elderly patients due to the wide spectrum of adverse effects
B. Pregabalin is often used to treat neuropathic pain associated with diabetic peripheral neuropathy
C. Carbamazepine is the first-line therapy for generalized tonic-clonic seizures
D. Carbamazepine reduces the propagation of abnormal impulses at the brain level, thus inhibiting the generation of action potentials in the epileptic focus
E. Phenobarbital can be used to treat status epilepticus
F. Gabapentin is well tolerated by elderly patients with partial seizures
G. Felbamate is reserved for patients with liver failure due to its predominantly renal elimination
H. Diazepam may cause the cessation of prolonged or clustered generalized tonic-clonic seizures
I. Carbamazepine is used first-line in patients with absence seizures
J. Levetiracetam is contraindicated in partial seizures in pediatric patients

190. **The following statements about anticonvulsant medication are true:**

A. Carbamazepine can be used to treat trigeminal neuralgia and bipolar disorder
B. Valproate causes renal toxicity, causing a decrease in the glomerular filtration rate and an increase in the concentrations of nitrogenous products
C. Gabapentin is excreted in the bile, so it does not require dose modification in patients with kidney disease
D. Lamotrigine has a narrow therapeutic spectrum, being used only in the treatment of partial seizures
E. Felbamate, Lamotrigine, Pregabalin, Gabapentin are part of the "second generation" antiepileptic agents
F. Carbamazepine may cause hyponatremia, especially in elderly patients
G. Phenobarbital's main mechanism of action is to enhance the excitatory effects of GABA
H. Lorazepam has a short half-life and is used as an adjunctive agent in the treatment of myoclonic seizures
I. Topiramate is contraindicated in the treatment of primary generalized epilepsy
J. Felbamate is reserved for the treatment of refractory forms of epilepsy (especially Lennox-Gastaut syndrome)

191. **Choose the correct statements about selective serotonin reuptake inhibitors (SSRIs):**

A. Shows reduced ability to block the dopamine transporter.
B. They belong to the class of antidepressant drugs.
C. They are more effective in the treatment of depression compared to tricyclic antidepressants.
D. Paroxetine is an SSRI approved in bulimia nervosa.
E. After at least 2 weeks of SSRI treatment, mood is improved.
F. In the case of sertraline, food does not influence absorption after oral administration.
G. They are contraindicated in obsessive-compulsive disorder.
H. They are considered drugs of choice for the treatment of depression.
I. SSRIs show uniform efficacy, so all treated patients respond to treatment.
J. It blocks the reuptake of serotonin, which leads to an increase in the concentration of this neurotransmitter in the synaptic cleft.

192. **The true statements are:**

A. Food increases the oral absorption of sertraline.
B. Fluoxetine is available as a sustained-release preparation.
C. SSRIs have plasma half-lives between 16-36 hours.
D. Fluoxetine and paroxetine are enzyme inducers of the hepatic isoenzyme CYP2D6.
E. Fluoxetine is administered once a day.
F. All SSRIs are well absorbed after oral administration.
G. Sertraline is excreted exclusively by the kidneys.
H. Fluoxetine has a short half-life compared to other agents of the SSRI class.
I. SSRIs do not interfere with the metabolism of other drugs.
J. SSRIs are extensively metabolized by enzymes of the cytochrome P450 subfamily.

193. **The following statements are true:**

A. Desvenlafaxine is an inactive metabolite of venlafaxine.
B. At low doses, venlafaxine increases blood pressure and heart rate.
C. Venlafaxine is a substrate for the CYP2D6 isoenzyme.
D. Venlafaxine belongs to the class of selective serotonin reuptake inhibitors.
E. Rashes are some of the most common side effects of venlafaxine.
F. Desvenlafaxine is the active metabolite of venlafaxine.
G. Nausea and headache are some of the most common side effects of venlafaxine.
H. Abrupt discontinuation of venlafaxine does not cause discontinuation syndrome.
I. Venlafaxine is a strong serotonin reuptake inhibitor, and at medium to high doses it also blocks norepinephrine reuptake.
J. The half-life of the active metabolite of venlafaxine is 11 hours.

194. **Choose the correct statements about tricyclic antidepressants (TCAs):**

A. They are lipophilic drugs, which is why they easily penetrate the central nervous system.
B. ATC does not require dose adjustment depending on the response to treatment obtained and plasma concentrations.
C. They are hydrophilic drugs.
D. Low doses of doxepin are useful in the treatment of insomnia.
E. Imipramine has been used to control bedwetting in children over 6 years of age.
F. Imipramine relaxes the internal sphincter of the urinary bladder, which is why it has been used in enuresis in children over 6 years of age.
G. It is well absorbed after oral administration.
H. Their bioavailability is very high.
I. They are effective for the treatment of moderate or severe depression.
J. During the first weeks of treatment with ATC, the sedative effect does not appear.

195. **The following statements about selective serotonin reuptake inhibitors (SSRIs) are true:**

A. This therapeutic class causes serotonin to decrease in the synaptic cleft, thereby decreasing postsynaptic neuronal activity
B. Sertraline should not be used in pediatric patients with obsessive-compulsive disorder
C. Serotonin syndrome, an adverse effect of SSRI therapy, is characterized by hypothermia, bradycardia, and altered mental status
D. Side effects of SSRI therapy include anxiety, drowsiness, and sexual dysfunction
E. SSRI discontinuation syndrome often occurs with Fluoxetine use
F. Fluoxetine has the disadvantage of a very short half-life, thus requiring the administration of multiple daily doses
G. Overdosage with SSRIs lowers the seizure threshold, potentially triggering seizures
H. Fluoxetine has a dual mechanism of action, both by blocking the reuptake of serotonin and noradrenaline from the synaptic cleft
I. In healthy individuals, these drugs do not produce CNS stimulation or mood enhancement
J. The therapeutic effects of SSRIs begin approximately 2 weeks after initiation of treatment

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196. **The following statements about antidepressant medications are true:**

A. Selective serotonin reuptake inhibitors are considered to be the drugs of choice for the treatment of depression
B. Tricyclic antidepressants improve mood, increase mental alertness and physical activity levels
C. Serotonin and noradrenaline reuptake inhibitors are effective in relieving neuropathic pain symptoms
D. The main side effects of selective serotonin reuptake inhibitors are headache, anxiety, gastrointestinal disturbances and sexual dysfunction
E. Tricyclic antidepressants have a high therapeutic index
F. Venlafaxine is a strong serotonin inhibitor, and at high doses it also blocks noradrenaline reuptake
G. Overdosage with selective serotonin reuptake inhibitors may result in an increased risk of cardiac arrhythmias
H. Tricyclic antidepressants, at therapeutic doses, block dopamine transporters
I. Tricyclic antidepressants stimulate serotonergic, histaminergic, □-adrenergic and muscarinic receptors
J. At high doses, venlafaxine causes a decrease in blood pressure and heart rate

197. **The following statements about antidepressant medications are true:**
A. During treatment with monoamine oxidase inhibitors, patients should be encouraged to consume foods rich in tyramine (fermented cheeses, aged meat, etc.)
B. Because of the increased risk of drug and food interactions, monoamine oxidase inhibitors are considered to be last-line therapeutic agents
C. Mirtazapine has euphoric effects and predisposes patients to decreased appetite and weight loss
D. Bupropion improves withdrawal symptoms in patients attempting to quit smoking
E. Amitriptyline is often used in the treatment of migraine headaches and chronic pain syndromes
F. Imipramine, a tricyclic antidepressant, is contraindicated in patients with enuresis because it may cause relaxation of the internal bladder sphincter
G. Tricyclic antidepressants stimulate ▯-adrenergic receptors and thus produce hypertension and reflex tachycardia
H. The marked sedative effect of tricyclic antidepressants has as a substrate the blocking of H1 histaminergic receptors
I. Monoamine oxidase inhibitors (MAOIs) increase intraneuronal and synaptic stores of norepinephrine, serotonin and dopamine
J. Patients with psychomotor hyperactivity benefit most from treatment with monoamine oxidase inhibitors

198. **The following statements about antidepressant medications are true:**
A. Fluvoxamine, due to its strong activating effect, is administered to patients who complain of excessive sleepiness
B. Duloxetine inhibits serotonin and norepinephrine reuptake regardless of dose
C. Fluoxetine, a tricyclic antidepressant, causes a decrease in monoamine concentrations in the synaptic cleft
D. Monoamine oxidase inhibitors are contraindicated in atypical depression (mood disturbances, drowsiness, appetite disturbances)
E. Tricyclic antidepressants have a high therapeutic index
F. Possible side effects of monoamine oxidase inhibitors are drowsiness, orthostatic hypotension or constipation
G. Side effects of lithium salts include headache, dry mouth, polydipsia, polyphagia, polyuria, and gastrointestinal discomfort
H. Atypical antipsychotics (risperidone, olanzapine, quetiapine) are used in the treatment of manic states
I. Medications such as lithium salts, carbamazepine, valproic acid and lamotrigine are used to treat bipolar disorder.
J. During treatment with lithium salts, patients may experience symptoms of hyperthyroidism

199. **The following statements about antidepressant medications are true:**
A. Mirtazapine has strong sedative properties, being recommended for depressed patients who have sleep disorders
B. Tricyclic antidepressants have the disadvantage of having difficulty penetrating the central nervous system due to their lipophilic nature
C. On average, it takes at least 2 weeks for antidepressants to significantly improve mood
D. Coadministration of monoamine oxidase inhibitors and selective serotonin reuptake inhibitors may trigger "serotonergic syndrome"
E. Abrupt discontinuation of serotonin and norepinephrine inhibitors can be done safely without withdrawal syndrome
F. Tricyclic antidepressants are preferred for use in bipolar disorder patients in the manic phase
G. High doses of Bupropion increase the risk of seizures
H. Selegiline causes a strong sedative effect, being indicated in patients with agitation or insomnia
I. Bupropion works by inhibiting the reuptake of dopamine and norepinephrine
J. Tricyclic antidepressants are indicated in depressed patients with unstable angina and preexisting arrhythmias

200. **The following agents are tricyclic antidepressants:**
A. escitalopram
B. sertraline
C. paroxetine
D. nortriptyline
E. amitriptyline
F. clomipramine
G. duloxetine
H. desipramine
I. doxepin
J. citalopram

201. **Choose the correct answer options:**
A. The central effects of the drug levodopa can be amplified by co-administration of carbidopa.
B. Dopamine crosses the blood-brain barrier.
C. Levodopa can cause hypertension as an adverse reaction.
D. Carbidopa crosses the blood-brain barrier.
E. Levodopa restores dopaminergic neurotransmission in the striatum by increasing dopamine synthesis in viable neurons in the substantia nigra.
F. Parkinsonism is the consequence of dopamine deficiency in specific brain regions.
G. Levodopa is a metabolic precursor of dopamine.
H. The relief provided by levodopa in Parkinson's disease is only symptomatic.
I. The central effects of the drug levodopa can be significantly reduced by co-administration of carbidopa
J. At the peripheral level, levodopa does not undergo transformations.

202. **It is correct that:**
A. It is recommended that levodopa be administered on an empty stomach, 45 minutes before a meal.
B. Levodopa can have central and peripheral adverse effects.
C. Through its adrenergic action on the iris, levodopa can cause miosis.
D. Levodopa in combination with carbidopa represents a powerful and effective therapeutic regimen in the treatment of Parkinson's disease.
E. Levodopa can be administered immediately after a meal, as absorption is not influenced by food.
F. Protein-rich foods interfere with the penetration of levodopa into the CNS.
G. Levodopa has a very long half-life.
H. Stopping levodopa treatment can be done suddenly without side effects.
I. Food does not influence the penetration of the therapeutic agent levodopa into the CNS.
J. Levodopa has a very short half-life (1-2 hours).

203. **The following statements about cotechol-O-methyltransferase (COMT) inhibitors are correct:**
A. Tolcapone is eliminated exclusively by the kidneys.
B. Entacapone is eliminated through stool and urine.
C. Entacapone crosses the blood-brain barrier.
D. Entacapone selectively and reversibly inhibits COMT.
E. Tolcapone inhibits COMT in the central nervous system.
F. Entacapone and tolcapone belong to the class of COMT inhibitors.
G. Doses of entacapone and tolcapone should be adjusted in patients with moderate or severe liver cirrhosis.
H. Entacapone can cause a severe side effect called fulminant hepatic necrosis.
I. No dose adjustment of entacapone and tolcapone is necessary in patients with moderate or severe liver cirrhosis.
J. Tolcapone inhibits COMT non-selectively and irreversibly.

204. **The correct answer options are:**
A. Dopaminergic agonists are contraindicated in patients whose response to levodopa is fluctuating.
B. Bromocriptine is a dopaminergic receptor agonist.
C. Rotigotine can be administered parenterally.
D. Apomorphine is a new generation dopaminergic agonist.
E. The elimination of pramipexole from the body is not influenced by renal function.
F. Pramipexole and ropinirole act at dopamine receptors.
G. Treatment with bromocriptine may not worsen psychiatric conditions.
H. Apomorphine is an ergot derivative.
I. Apomorphine is a cotechol-O-methyltransferase inhibitor.
J. Pramipexole and ropinirole do not exacerbate peripheral vasospasm.

205. **The following drugs are used in Parkinson's disease:**
A. tacrine
B. memantine
C. entacapone
D. Bromocriptine
E. Galantamine
F. Amantadine
G. Levodopa
H. Donzepil
I. rivastigmine
J. Carbidopa

206. **The following are correct about levodopa and carbidopa:**

A. Levodopa is recommended in individuals with glaucoma because it can cause a decrease in intraocular pressure
B. Carbidopa increases 4-5 times the required dose of levodopa and implicitly applies the severity of side effects caused by dopamine formed in the periphery
C. Levodopa is a metabolic precursor of dopamine
D. Carbidopa is a dopa decarboxylase inhibitor, reducing the metabolism of levodopa in the gastrointestinal tract and peripheral tissues
E. Vitamin B6 increases the peripheral metabolism of levodopa and decreases its effectiveness
F. Vitamin B12 increases the peripheral metabolism of levodopa and decreases its effectiveness
G. The levodopa-carbidopa combination substantially reduces the severity of Parkinson's disease in the first years of treatment in about two-thirds of patients
H. Levodopa can cause mood swings, depression, psychosis and anxiety
I. Levodopa is a metabolic precursor of adrenaline
J. Levodopa has a long half-life (18-22 hours), maintaining a constant plasma concentration

207. **The following are correct about catechol-O-methyltransferase inhibitors:**

A. Tolcapone has a longer duration of action compared to entacapone
B. Oral absorption is influenced by food
C. Entacapone differs from tolcapone in that it crosses the blood-brain barrier and inhibits catechol-O-methyltransferase in the CNS
D. Administration of entacapone can lead to a severe adverse reaction, namely fulminant hepatic necrosis
E. It does not bind to plasma albumin, having large volumes of distribution
F. Entacapone and tolcapone inhibit catechol-O-methyltransferase and lead to increased central uptake of levodopa, achieving higher concentrations of dopamine in the brain
G. Oral absorption is easily achieved and is not influenced by food
H. Entacapone has a longer duration of action compared to tolcapone
I. Tolcapone differs from entacapone in that it crosses the blood-brain barrier and inhibits catechol-O-methyltransferase in the CNS
J. It binds extensively to plasma albumin (>98%), having small volumes of distribution

208. **The following are correct about dopaminergic receptor agonists:**

A. Hallucinations, confusion, delirium, nausea are less common with bromocriptine compared to levodopa
B. Bromocriptine can commonly cause high blood pressure
C. Apomorphine is indicated for the treatment of the "stopped" phenomenon, manifested by akinesia (absence of voluntary movements
D. Bromocriptine has the potential to cause pulmonary and retroperitoneal fibrosis
E. The use of dopaminergic agonists for advanced forms of Parkinson's disease allows the levodopa dose to be increased
F. The use of dopamine agonists in early Parkinson's disease delays the time at which levodopa becomes necessary
G. Apomorphine is an injectable dopaminergic agonist and is used in severe and advanced forms of Parkinson's disease, in combination with currently prescribed oral medications
H. Bromocriptine is an ergot derivative
I. Rotigotine, ropinirole, pramipexole are ergot derivatives
J. Bromocriptine, pramipexole and ropinirole are effective in patients who have not responded to levodopa

209. **The following statements about Parkinson's disease are correct:**

A. Parkinson's disease correlates with dopaminergic hyperactivity in the striatum
B. Levodopa does not cross the blood-brain barrier, but its immediate precursor, Dopamine, is actively transported in the CNS
C. Levodopa relieves stiffness, tremors, and other symptoms of parkinsonism
D. Levodopa stimulates the chemoreceptor trigger zone in the spinal cord, producing bradycardia
E. The loss of dopaminergic neurons in the substantia nigra can be highlighted by the decrease in the uptake of dopaminergic precursors, which can be visualized by positron emission tomography
F. Levodopa restores dopaminergic neurotransmission in the striatum by increasing dopamine synthesis in viable neurons in the substantia nigra
G. Parkinsonism is a progressive neurological disorder with muscle involvement, characterized by tremors, muscle stiffness and bradykinesia
H. The goal of therapy in Parkinson's disease is to restore the appropriate level of dopamine in the basal ganglia and antagonize the excitatory effect of cholinergic neurons
I. Genetic factors play a dominant role in the etiology of Parkinson's disease
J. Medicines such as Phenothiazines or Haloperidol are used of choice in patients with Parkinson's disease

210. **The following statements about Parkinson's disease are correct:**

A. Levodopa, in combination with Carbidopa, represents a powerful and effective therapeutic regimen for the treatment of Parkinson's disease
B. Amantadine has many effects on neurotransmitters involved in parkinsonism, such as increasing the release of dopamine
C. Apomorphine is used in severe and advanced forms of the disease
D. Antimuscarinic agents are more effective than Levodopa and are the therapeutic standard in the treatment of Parkinson's disease
E. Levodopa exacerbates symptoms in many patients with psychosis, possibly through central accumulation of catecholamines
F. Bromcriptine is a new generation dopaminergic agonist available for injection
G. Fluctuations in Levodopa plasma concentration can cause the "on-off" phenomenon (rapid oscillations between akinesia and choreoathetotic movements)
H. By decreasing the metabolism of dopamine, Selegiline (selective MAO-type B inhibitor), increases brain levels of dopamine
I. Unlike ergotamine derivatives, Pramipexole and Ropinirole cause exacerbation of peripheral vasospasm and pulmonary fibrosis
J. Apomorphine is a dopaminergic antagonist indicated for the treatment of the "on" phenomenon, manifested by akinesia

211. **The following statements about Parkinson's disease are correct:**

A. Bromcriptine is the drug of choice in patients with Parkinson's disease and a history of myocardial infarction
B. Amantadine, in high doses, can produce acute toxic psychosis
C. The adverse effects of the antimuscarinic agents used in Parkinson's disease can be counteracted by the administration of Atropine
D. Amantadine is more effective than Levodopa, but instead has a wider spectrum of adverse effects
E. Parkinsonism is the consequence of excess dopamine in certain specific brain regions
F. Antimuscarinic drugs used in Parkinson's disease can cause mydriasis, sinus tachycardia, urinary retention and constipation
G. Benzotropin is contraindicated in patients with Parkinson's disease who have pyloric stenosis
H. Rotigotine is a dopaminergic agonist used for early forms of Parkinson's disease
I. Patients in whom therapy is initiated with dopamine receptor agonists have a lower risk of dyskinesias
J. Concomitant administration of Selegiline and Levodopa makes it necessary to increase Levodopa doses for symptomatic control

212. **Choose the correct answers regarding non-steroidal anti-inflammatory drugs (NSAIDs):**

A. It works mainly by inhibiting cyclooxygenase, which catalyzes the first step of prostanoid biosynthesis.
B. Treatment with NSAIDs is associated with an increased risk of severe gastrointestinal side effects.
C. All NSAIDs work by inhibiting prostaglandin synthesis.
D. Young patients are at greater risk of severe gastrointestinal side effects.
E. Patients with cardiovascular disease are more exposed to thrombotic events that may occur following prolonged NSAID treatment.
F. Aspirin is most often used for pain control.
G. Aspirin only has antipyretic and anti-inflammatory effects.
H. At therapeutic doses, aspirin decreases alveolar ventilation.
I. Aspirin reduces the intensity of painful stimuli in the subcortical areas (hypothalamus and thalamus).
J. The action of aspirin on cyclooxygenase is reversible.

213. **The correct statements are:**

A. Aspirin is administered on an empty stomach.
B. Aspirin is recommended as an antipyretic in children.
C. To avoid Reye's syndrome in children, it is recommended to replace aspirin with acetaminophen for fever control.
D. It is recommended to take aspirin with food and large volumes of fluids.
E. About 15% of patients taking aspirin experience hypersensitivity reactions.
F. Salicylates do not bind to plasma proteins.
G. Aspirin can be used before surgery.
H. The most common adverse effects of salicylates are epigastric discomfort, nausea, and vomiting.
I. Taking aspirin during pregnancy is safe.
J. At toxic doses, salicylates cause respiratory depression.

214. **It is correct that:**

A. Celecoxib is a selective COX-2 inhibitor.
B. Celecoxib is safe to use in patients with sulfonamide allergy.
C. In patients with a history of ulcer disease, co-administration of celecoxib with a proton pump inhibitor may prevent the development of new gastric ulcers.
D. Celecoxib is approved for the treatment of acute or moderate pain.
E. CYP2C9 inhibitors (zafirlukast, fluconazole) may decrease serum concentrations of celecoxib.
F. In patients with severe liver damage, it is recommended to avoid the administration of celecoxib.
G. Compared to other NSAIDs, celecoxib does not exhibit renal toxicity
H. Celecoxib is metabolized in the liver by the CYP450 enzyme system.
I. Celecoxib is contraindicated in the treatment of familial adenomatous polyposis.
J. Celecoxib does not interact with beta-blockers (propranolol).

215. **The following statements about methotrexate are correct:**

A. The most common side effects of methotrexate treatment in rheumatoid arthritis are mucosal ulceration and nausea.
B. Combining methotrexate with other DMARDs is contraindicated.
C. Chronic treatment may cause cytopenia.
D. It is an immunostimulatory agent.
E. Methotrexate is an effective drug in all treated patients.
F. The response to treatment with methotrexate occurs after 3-6 weeks from the start of treatment.
G. It is an immunosuppressive agent.
H. Chronic treatment with methotrexate does not increase the severity of side effects.
I. Rashes are among the most common side effects of methotrexate treatment.
J. Used alone or in combinations, it has become the mainstay of treatment in patients with rheumatoid arthritis.

216. **The following drugs are non-steroidal anti-inflammatory drugs:**

A. allopurinol
B. chloroquine
C. ketoprofen
D. aspirin
E. acetaminophen
F. probenecid
G. indomethacin
H. methotrexate
I. piroxicam
J. celecoxib

217. **The following anti-inflammatory drugs are used in the treatment of gout:**

A. Infliximab
B. Adalimumab
C. Leflunomide
D. Febuxostat
E. Etanercept
F. Rituximab
G. Allopurinol
H. colchicine
I. Sulfinpyrazone
J. Probenecid

218. **The following are correct about the therapeutic indications of prostaglandins:**

A. Alprostadil can be used to treat erectile dysfunction
B. Prostaglandins play a major role in modulating pain, inflammation and fever
C. Alprostadil can be used to hasten closure of the ductus arteriosus in newborns with congenital heart disease
D. Iloprost is a very potent pulmonary vasoconstrictor agent used for the treatment of pulmonary arterial hypertension
E. Iloprost is a very potent pulmonary vasodilator used for the treatment of pulmonary arterial hypertension
F. Latanoprost is indicated for the treatment of open-angle glaucoma and elevated intraocular pressure
G. Alprostadil is not recommended in patients with erectile dysfunction
H. Misoprostol is also used outside the indications in the leaflet to stop the onset of labor
I. Lubiprostone is used to treat chronic idiopathic diarrhea
J. Misoprostol is used to protect the gastric mucosa during chronic NSAID treatment

219. **The following are true about the adverse effects of salicylates:**

A. Aspirin should not be taken for at least a week before surgery, as it inhibits platelet aggregation and prolongs bleeding time
B. To relieve dyspepsia, aspirin should be taken on an empty stomach
C. Aspirin and other salicylates given during viral infections have been associated with a decreased incidence of Reye's syndrome
D. Microscopic gastrointestinal bleeding is almost universal in patients treated with salicylates
E. The most common gastrointestinal effects of salicylates are epigastric discomfort, nausea, and vomiting
F. Administration of salicylates in toxic amounts can cause hypothermia
G. Aspirin administration in doses greater than 2 g/day increases the elimination of uric acid
H. At toxic doses, salicylates cause respiratory depression
I. Cases of fatal anaphylactic shock caused by taking aspirin are very common
J. Administration of salicylates in toxic amounts can cause hyperthermia

220. **The following statements about anti-inflammatories are correct:**

A. Azathioprine is considered safe to use during pregnancy and breast-feeding in women with rheumatoid arthritis
B. The gastrointestinal adverse effects of Ibuprofen are more severe than those caused by Aspirin
C. Chronic treatment with Methotrexate can cause leukocytosis (increase in the number of white blood cells)
D. Misoprostol is used to protect the gastric mucosa during chronic NSAID treatment
E. Acetaminophen is the antidote of choice for acute N-acetylcysteine poisoning
F. Diclofenac is approved for the long-term treatment of rheumatoid arthritis and ankylosing spondylitis
G. Aspirin is most commonly used for primary and secondary prevention of cardiovascular events
H. Celecoxib inhibits COX-1 (cyclooxygenase 1) more selectively, thereby inhibiting platelet aggregation and increasing bleeding time
I. Cyclophosphamide modulates the immune response in rheumatoid arthritis and thus improves the patients' condition
J. Microscopic gastrointestinal bleeding is almost universal in patients treated with salicylates

221. **Choose the correct answer options:**

A. Cortisol stimulates ACTH secretion.
B. Anterior pituitary hormones can be destroyed under the action of proteolytic enzymes of the digestive tract.
C. Adrenocorticotropic hormone used for therapeutic purposes can produce hyperkalemia as an adverse effect.
D. The target organ of adrenocorticotropic hormone (ACTH) is the adrenal cortex.
E. Stress inhibits ACTH secretion.
F. Anterior and posterior pituitary hormones cannot be administered orally.
G. Corticotropin preparations used therapeutically are obtained by extraction from the anterior pituitary of domestic animals or by synthesis of human ACTH.
H. ACTH is not used in West syndrome.
I. ACTH is contraindicated in patients with multiple sclerosis.
J. Secondary adrenal insufficiency is caused by inadequate pituitary secretion of ACTH.

222. **The correct statements are:**

A. Prolactin secretion increases reproductive capacity.
B. Prolactin stimulates and maintains lactation.
C. Prolactin is secreted by the anterior pituitary gland.
D. Hyperprolactinemia is usually treated with D2 receptor antagonists.
E. Cabergoline is not used in the therapy of pituitary microadenomas.
F. Hyperprolactinemia is associated with galactorrhea and hypogonadism.
G. Prolactin inhibits lactation.
H. Bromocriptine is useful in the therapy of hyperprolactinemia.
I. Prolactin secretion is stimulated by the action of dopamine at the level of D2 receptors.
J. There are no preparations available for the treatment of conditions associated with hypoprolactinemia.

223. **It is correct that:**

A. There have been reports of oxytocin administration leading to uterine rupture.
B. The vasopressor effect of oxytocin is stronger than that of vasopressin.
C. Oxytocin can be used in preterm labor.
D. Oxytocin has a stronger antidiuretic effect than vasopressin.
E. Oxytocin produces milk ejection by contraction of the myoepithelial cells surrounding the mammary alveoli.
F. Oxytocin is used in obstetrics to inhibit uterine contractions.
G. Oxytocin is used in obstetrics to stimulate uterine contractions.
H. By intravenous administration, oxytocin induces medicated labor.
I. Oxytocin can be obtained by chemical synthesis.
J. Oxytocin is recommended in pregnancies with abnormal fetal presentation.

224. **The following statements are correct:**
    A. Vasopressin has both antidiuretic and vasopressor effects.
    B. Desmopressin produces vasoconstriction.
    C. The main indication for vasopressin is the treatment of diabetes insipidus.
    D. Desmopressin is conveniently administered parenterally.
    E. Vasopressin is contraindicated in the treatment of cardiac arrest.
    F. Nasal administration of the therapeutic agent desmopressin does not produce adverse reactions.
    G. Desmopressin has a longer duration of action than vasopressin.
    H. Vasopressin is also called the antidiuretic hormone.
    I. Oxytocin is structurally related to vasopressin.
    J. Vasopressin is used in the treatment of cardiac arrest.

225. **The following statements about pituitary hormones are correct:**
    A. Oxytocin is used to inhibit uterine contractions and decrease the intensity of labor
    B. Octreotide is used to treat acromegaly caused by tumors that secrete growth hormone
    C. Dopamine stimulates the secretion of prolactin, thus causing a decrease in lactation and reproductive capacity
    D. The main indication of Desmopressin is the treatment of diabetes insipidus by increasing water absorption in the collecting tubules
    E. Gonadorelin synthesis analogs are used to suppress gonadal hormone production in the treatment of precocious puberty
    F. In acromegaly, the level of IGF-1 is low as a consequence of the high concentration of somatotropin
    G. Somatostatin is used to treat GH deficiency or growth disorders in children
    H. Bromocriptine and Carbegoline are agonists of dopaminergic receptors, being used in the treatment of hyperprolactinemia
    I. Corticotropin-releasing hormone (CRH) is used diagnostically to differentiate Cushing's syndrome from ectopic ACTH production
    J. Cortisol stimulates the secretion of ACTH, through a positive feedback mechanism

226. **The following statements about pituitary hormones are correct:**
    A. Somatostatin acts as a GH receptor agonist, thereby stimulating the release of IGF-1
    B. Hypogonadism secondary to hyperprolactinemia is treated with D2 receptor agonists such as Carbegoline
    C. Oxytocin causes lactation to decrease by contracting the myoepithelial cells surrounding the mammary alveoli
    D. ACTH is given in the treatment of multiple sclerosis and infantile spasms (West syndrome)
    E. Somatotropin is indicated in the treatment of secretory diarrhea associated with tumors that produce VIP (vasoactive intestinal peptide)
    F. Synthetic gonadotropin analogues are indicated in male patients with gynecomastia or low libido
    G. Desmopressin has minimal activity at V1 receptors, maintaining its effect mediated by renal V2 receptors
    H. For labor induction, Oxytocin is administered intravenously, toxic reactions being rare
    I. Follitropin injection in men triggers spermatogenesis, being used in the treatment of infertility
    J. Oxytocin is used of choice in pregnancies with abnormal fetal presentation and fetal distress

227. **The following statements about adrenal hormones are correct:**
    A. Hyperkalemia is a common consequence of corticosteroid therapy
    B. Betamethasone administered intramuscularly to the mother, before birth, causes the stimulation of lung maturation in the fetus
    C. The most important therapeutic property of glucocorticoids is the ability to strongly reduce the inflammatory response
    D. Glucocorticoids favor gluconeogenesis by stimulating the hepatic activity of enzymes involved in gluconeogenesis
    E. Excess glucocorticoids can lead to hypoglycemia
    F. Aldosterone increases the reabsorption of sodium, bicarbonate, and water in the renal tubules and collecting ducts
    G. Elevated aldosterone levels cause metabolic acidosis and hyperkalemia
    H. Glucocorticoids inhibit gastric acid and pepsin production
    I. The Dexamethasone Suppression Test is used to diagnose Addison's disease and establish its etiology
    J. Glucocorticoids are used to treat the symptoms of asthma, allergic rhinitis and allergic reactions

228. **The following statements about adrenal hormones are correct:**

A. Addison's syndrome is characterized by "fluffy" facies, increased body hair and acne
B. Glucocorticoids decrease the number of eosinophils, basophils, monocytes and lymphocytes
C. High concentrations of glucocorticoids stimulate the secretion of TSH and thyroid hormones respectively
D. Glucocorticoids stimulate the intestinal absorption of Ca2+ and the formation of bone tissue
E. Congenital adrenal hyperplasia causes virilization in females, due to excessive production of adrenal androgens
F. In the absence of hydrocortisone replacement therapy, patients with primary adrenal insufficiency die
G. Eplerenone acts as an aldosterone agonist, causing decreased renal sodium and water reabsorption
H. Glucocorticoids cause a slight decrease in blood pressure through vasodilatory action at the level of small vessels
I. Spironolactone is used to treat hyperaldosteronism
J. Glucocorticoids interfere with mast cell degranulation, causing reductions in histamine levels and capillary permeability

229. **About hypothalamic hormones and those produced by the anterior pituitary, the following are correct:**

A. Normally, ACTH is released by the pituitary gland in pulses with a specific diurnal rhythm, with the maximum concentration occurring in the late evening and the minimum concentration around 6 am
B. Somatotropin is also recommended in patients with intracranial hypertension and diabetic retinopathy
C. Bromocriptine and cabergoline are used to treat hypoprolactinemia
D. The main effect of prolactin is to inhibit lactation and increase reproductive capacity
E. Hypothalamic releasing hormones are mainly used for diagnostic purposes, to confirm pituitary insufficiency
F. Somatotropin is used to treat GH deficiency or growth disorders in children
G. Cosyntropin is a preparation obtained by synthesis of human ACTH and is the agent of choice for the diagnosis of adrenal insufficiency
H. Corticotropin is especially used for the differential diagnosis between primary and secondary adrenal insufficiency
I. Somatostatin is a growth hormone-stimulating hormone
J. Normally, ACTH is released by the pituitary gland in pulses with a specific diurnal rhythm, with the maximum concentration occurring around 6 am and the minimum concentration in the late evening

230. **The following are true about the hormones produced by the posterior pituitary gland:**

A. Desmopressin is the drug of choice for diabetes insipidus and nocturnal enuresis
→ B. Oral administration is preferred, as they are not susceptible to proteolytic cleavage
→ C. They are susceptible to proteolytic cleavage, which is why they are administered parenterally.
D. Vasopressin and oxytocin are not regulated by releasing hormones
E. These hormones have very short half-lives ←
F. Vasopressin and oxytocin are regulated by releasing hormones
G. Oxytocin is indicated in pregnancies with abnormal fetal presentation, fetal distress or preterm labor
H. The main indication for vasopressin is the treatment of type I diabetes
I. Oxytocin is only used in obstetrics to stimulate uterine contractions to initiate or increase the intensity of labor
J. These hormones have very long half-lives

231. **Choose the correct answers regarding metformin:**

A. Increases glucose uptake and utilization by target tissues.
B. The main mechanism of action of metformin is to reduce hepatic glucose release, predominantly by inhibiting hepatic gluconeogenesis.
C. Increases insulin sensitivity. ←
D. It is the only oral antidiabetic in the biguadine class currently available.
E. It stimulates insulin secretion, increasing the risk of hyperinsulinemia upon administration.
F. It cannot be used in combination with insulin.
G. With metformin, the risk of hypoglycemia can only occur if caloric intake is inadequate or inconsistent with the level of physical activity.
H. Metformin increases insulin resistance.
I. Increases intestinal absorption of sugars.
J. The risk of hypoglycemia after taking metformin is similar to that given by sulfonylurea.

232. **Choose the correct answer options:**

A. LDL level is not affected by pioglitazone monotherapy.
B. Weight gain may occur as an adverse effect in patients treated with glitazones.
C. Pioglitazone is eliminated from the body exclusively through the kidneys.
D. Treatment with rosiglitazone lowers LDL levels.
E. Glitazones are a group of agents that increase insulin sensitivity.
F. PPAR-γ ligands increase insulin sensitivity in adipose tissue, liver and skeletal muscle.
G. Glitazones stimulate insulin release from pancreatic β-cells, so hyperinsulinemia is a problem in glitazone therapy.
H. Glitazones target peroxisome proliferator-activated receptor γ (PPAR-γ), a nuclear hormone receptor.
I. Rosiglitazone is recommended in patients with cardiovascular risk.
J. Treatment with pioglitazone lowers HDL concentration.

233. **Choose the correct answer options:**

A. Estradiol is the main estrogenic hormone in premenopausal women.
B. The main estrogenic hormone produced by the placenta is estrone.
C. Synthetic estrogen analogs are considerably less potent than natural estrogens.
D. Ethinyl estradiol is a natural estrogen, secreted by the ovaries.
E. The main estrogen hormone produced by the placenta is estriol.
F. The bioavailability of orally administered estrogen is very high, as it does not undergo the hepatic first pass effect.
G. Estrone, a metabolite of estradiol, has about a third of its estrogenic potency.
H. Natural estrogens are not absorbed through the skin.
I. Estrone is the main circulating estrogen hormone after menopause.
J. Estradiol is the most potent estrogen produced and secreted by the ovaries.

234. **Choose the correct answer options:**

A. The most severe adverse effects of oral contraceptives are cardiovascular diseases.
B. A common side effect of medroxyprogesterone acetate is weight gain.
C. Transdermal contraceptive patches have comparable efficacy to oral contraceptives.
D. Oral contraceptives are also recommended for women over 35 who are heavy smokers.
E. In women weighing more than 90 kg, transdermal contraceptive patches have been shown to be less effective.
F. Medroxyprogesterone acetate is an oral contraceptive.
G. Estrogen causes HDL to decrease.
H. Medroxyprogesterone acetate decreases the rate of bone demineralization and the risk of osteoporosis.
I. Oral contraceptives can be administered to women with estrogen-dependent neoplasms.
J. Increased estrogen exposure through the use of therapeutic transdermal patches may increase the risk of thromboembolism.

235. **The following statements about diabetes mellitus are correct:**

A. Type 2 diabetes is characterized by absolute insulin deficiency, caused by massive necrosis of β cells
B. In the first 2 minutes after a meal, there is a sudden drop in insulin secretion
C. Type 2 diabetes is frequently associated with decreased sensitivity of target organs to endogenous or exogenous insulin
D. Classic symptoms of insulin deficiency include oliguria and weight gain
E. Insulin resistance is considered to be a major cause of type 1 diabetes
F. Uncontrolled gestational diabetes can cause fetal macrosomia
G. Pramlinitide is an amylin analog that can be used as an adjunctive treatment to insulin therapy
H. The rate of HbA1C formation is proportional to the average blood glucose of the last 3 months
I. Metabolic changes in type 1 diabetes are less pronounced than those seen in type 2 diabetes
J. As type 2 diabetes progresses, β-cell function declines, necessitating the initiation of insulin therapy

236. **The following statements about diabetes mellitus are correct:**

A. Insulin glargine and detemir are fast-acting and short-acting insulins because they do not aggregate or form complexes
B. Due to the slow dissociation from albumin, insulin detemir has a long-lasting effect, similar to that of insulin glargine
C. Adverse reactions to exogenous insulin include weight gain, lipodystrophy and allergic reactions at the injection site
D. Plasma C-peptide dosing is a better way to assess insulin production
E. The hypoglycemic effect of Sulfonylureas and glinides is due to the inhibition of K+ channels
F. In case of hyperglycemic emergency, insulin is injected intravenously (iv) regularly
G. In patients with diabetes requiring insulin therapy, standard treatment involves daily administration of 3-4 doses of insulin
H. Because of their slow action and long duration of effect, insulin lispro, aspart, and glulisine are considered slow-acting insulins
I. A value of HbA1C >7% is considered to be the therapeutic objective of intensive insulin treatment
J. Glucose administered by injection has a more pronounced effect on insulin secretion compared to glucose administered orally

237. **The following statements about insulin therapy are correct:**

A. A value of HbA1C >7% is considered to be the therapeutic objective of intensive insulin treatment
B. Pramlintide accelerates gastric emptying and increases postprandial glucagon secretion
C. Dose, site of injection, local blood supply, temperature and level of physical activity can affect the duration of action of different types of insulin
D. Intensive insulin treatment has not been shown to significantly reduce the macrovascular complications of diabetes
E. Glucose administered by injection has a more pronounced effect on insulin secretion compared to glucose administered orally
F. Because of their slow action and long duration of effect, insulin lispro, aspart, and glulisine are considered slow-acting insulins
G. Insulin resistance is considered to be a major cause of type 1 diabetes
H. The frequency of hypoglycemic episodes and the risk of coma and seizures secondary to insulin excess are higher with intensive treatment
I. NPH insulin should only be administered subcutaneously and never intravenously (iv), being useful for all forms of diabetes
J. Older diabetics do not produce sufficient amounts of counterregulatory hormones that normally provide effective protection against hypoglycemia

238. **The following statements about oral antidiabetics are correct:**

A. PPAR-▯ receptor antagonists (Sitagliptin) regulate the secretion of fatty acids, also causing a decrease in insulin sensitivity in adipose tissue, liver and skeletal muscle
B. The risk of hypoglycemia is much lower when taking sulfonylureas compared to biguanides
C. Sulfonylureas stimulate insulin release from pancreatic ▯ cells and increase peripheral insulin sensitivity
D. Metformin has the ability to slightly correct hyperlipemia (lowering plasma concentrations of LDL and VLDL-cholesterol)
E. Liraglutide is an oral inhibitor of dipeptidyl peptidase IV (DDP-IV), the enzyme responsible for the inactivation of incretins
F. Acarbose is administered between meals and works by accelerating the digestion of carbohydrates ingested at the previous meal
G. GLP-1 analogues prolong gastric emptying time and thus decrease food intake and postprandial glucagon secretion
H. Metformin increases the uptake and utilization of glucose by target tissues, decreasing insulin resistance
I. The therapeutic efficacy of Glinides depends on the presence of functional pancreatic ▯ cells, the final effect being the release of insulin
J. Decreased incretin activity increases insulin release in response to food intake

239. **The following statements about sex hormones are correct:**

A. Tamoxifen is preferred to be used in patients with a history of venous thromboembolic events
B. The large amount of progesterone released in the second half of the menstrual cycle stimulates the production of gonadotropins, triggering another ovulation
C. Estrogen can be used to prevent osteoporosis if other therapies are inadequate or difficult to tolerate
D. Emergency contraception requires the administration of large doses of progestin (e.g. 0.75 mg levonorgestrel) in the first 24 hours after unprotected sexual intercourse ("morning-after pill")
E. Tamoxifen is used as a palliative treatment for metastatic breast cancer in postmenopausal women
F. Estrogen therapy lowers the risk of breast or endometrial cancer
G. Raloxifene increases bone density, decreasing the risk of vertebral fractures
H. Urogenital manifestations (eg vaginal atrophy) should be treated first-line with systemically administered estrogen
I. Estrogens are most commonly used for contraceptive purposes and as hormone replacement therapy in menopausal women
J. Nausea and breast pain are among the most common side effects of estrogen therapy

240. **The following statements about sex hormones are correct:**

A. Estrogen stimulates through positive feedback the pituitary release of LH and FSH, thus causing ovulation
B. Estrogen therapy increases the risk of thromboembolic events, myocardial infarction, and endometrial cancer
C. Raloxifene is approved for breast cancer prophylaxis in high-risk women
D. Oral contraceptives increase the incidence of endometrial and ovarian cancer, but may decrease the incidence of cervical cancer
E. In significant uterine bleeding, the treatment of choice is Mifeprostone
F. Progesterone is produced in response to the action of luteinizing hormone in both women and men
G. Clomiphene increases GnRH secretion as well as gonadotropin secretion, producing ovarian stimulation
H. Endometriosis and cystic breast fibrosis are common complications of Danazol treatment
I. Weight loss and improved glucose tolerance are common in women taking nortestosterone derivatives
J. Progestins are used to control uterine bleeding, treat dysmenorrhea and endometriosis

241. **The following statements about androgens are correct:**

A. Anabolic steroids can be used to treat cachexia associated with HIV infection
B. Hypogonadism caused by insufficient hypothalamic or pituitary hormones is called primary hypogonadism
C. In children, the excess of androgen hormones causes premature closure of the epiphyseal cartilages
D. Androgens are a group of steroid hormones with anabolic and masculinizing effects in both men and women
E. The main side effects of Danazol are weight loss, increased breast volume and decreased libido
F. Excess androgen hormones in men can cause priapism, impotence and gynecomastia
G. Danazol causes weight gain, hoarseness of voice and stimulation of hair growth
H. Androgens stimulate bone resorption and decrease muscle protein synthesis
I. Androgen hormones are used as the therapy of choice for benign prostatic hyperplasia
J. Bicalutamide and Nilutamide are antiandrogenic compounds contraindicated in men with prostate cancer

242. **Choose the correct options:**

A. Hypothyroidism can cause mental retardation and dwarfism in children.
B. Hypothyroidism leads to tachycardia.
C. Thyroid hormones are stored in the form of thyroglobulin.
D. The thyroid gland secretes the hormone calcitonin.
E. Aluminum-containing antacids increase T4 absorption.
F. People affected by hyperthyroidism show bradycardia.
G. TSH is a glycoprotein synthesized by the posterior pituitary gland.
H. Phenobarbital decreases the metabolism of thyroid hormones.
I. Inadequate secretion of thyroid hormones (hypothyroidism) leads to bradycardia.
J. The two main thyroid hormones are triiodothyronine and thyroxine.

243. **Choose the correct options:**

A. Hyperthyroidism is also called thyrotoxicosis.
B. Hypothyroidism is diagnosed by detecting a low TSH level.
C. Hypothyroidism is diagnosed by detecting an elevated TSH level.
D. Levothyroxine toxicity can also manifest as unexplained weight gain.
E. The goal of hyperthyroidism therapy is to decrease the synthesis and/or decrease the release of thyroid hormones.
F. Iodine increases the vascularity of the thyroid gland.
G. Levothyroxine has a long half-life, which is why it is given once a day.
H. The TSH value increases in hyperthyroidism, through negative feedback.
I. The goal of thyrotoxicosis therapy is to increase the synthesis of thyroid hormones.
J. The treatment of hypothyroidism consists in the administration of levothyroxine (T4).

244. **Choose the correct options:**

A. Relatively rare adverse effects of methimazole include agranulocytosis, rash, and edema.
B. Beta-blockers without sympathomimetic activity are used in patients with hyperthyroidism to reduce generalized sympathetic stimulation.
C. Thyroid storm is manifested by extreme symptoms of hypothyroidism.
D. Propylthiouracil can block the conversion of T4 to T3.
E. Glucocorticoids are contraindicated in the treatment of thyroid storm.
F. Thioamides have effects on thyroglobulin already accumulated in glandular deposits.
G. Thioamides have long half-lives.
H. Iodinated contrast agents used in the treatment of thyroid storm stimulate the conversion of T4 to T3.
I. Thyroid storm is manifested by extreme symptoms of hyperthyroidism.
J. Thioamides have short half-lives.

245. **Choose the correct options:**

A. T3 and T4 hormones cannot be taken orally.
B. People affected by hyperthyroidism show nervousness, tachycardia, weight loss, tremors, hyperthermia.
C. TSH is synthesized by the anterior pituitary gland.
D. Thyroid function is controlled by a tropic hormone called thyroid-stimulating hormone (TSH).
E. Thyroid stimulating hormone is also called thyrotropin.
F. Thyrotropin-releasing hormone is produced by the anterior pituitary gland.
G. TSH synthesis is controlled by thyrotropin-releasing hormone (TRH).
H. The hormone calcitonin secreted by the thyroid gland increases calcium.
I. Hashimoto's thyroiditis is a pathological condition associated with the presence in the circulation of an excessive amount of thyroid hormones.
J. Glucocorticoids are contraindicated in the treatment of thyroid storm.

246. **The following statements about thyroid hormones are correct:**

A. The two main thyroid hormones are Triiodothyronine and Thyroxine
B. Aluminum-based antacid drugs increase the absorption of thyroxine
C. The thyroid gland secretes a hormone called calcitonin – a hormone that increases calcium
D. Glucocorticoids provide protection against secondary shock triggered by thyroid storm
E. Excess thyroid hormone secretion can cause mental and physical developmental disorders
→ F. Beta-blockers are contraindicated in patients with hypothyroidism who have increased generalized sympathetic stimulation
G. Levothyroxine taken in excess can cause nervousness, palpitations and weight loss
H. Hypothyroidism is a consequence of autoimmune damage to the thyroid gland, being diagnosed by detecting a low level of TSH
I. Propylthiouracil inhibits the oxidative processes necessary for the synthesis of thyroid hormones
J. Iodine is used to treat potentially fatal thyrotoxic crisis (thyroid storm)

247. **The following statements about thyroid hormones are correct:**

A. TSH is a glycoprotein synthesized in the hypothalamus, which increases the secretion of TRH from the anterior pituitary
B. Propylthiouracil stimulates the synthesis of T3 and T4 respectively and also increases the conversion of triiodothyronine to thyroxine
C. Adverse effects of Methimazole include agranulocytosis and skin rashes
D. Dopamine can block the secretion of TSH, thus causing the amount of thyroid hormones to decrease
E. In patients with severe heart failure, diltiazem is contraindicated for the treatment of thyroid storm
F. When the concentration of circulating thyroid hormones is increased, TRH secretion is stimulated by a feed-back mechanism
G. At pharmacological doses, glucocorticoids can stimulate TSH secretion
H. The presence of antibodies directed against thyroid peroxidase is diagnostic for Hashimoto's thyroiditis
I. Phenobarbital accelerates the metabolism of thyroid hormones
J. Iodine can be used before surgery, decreasing the vascularity of the thyroid gland

248. **The following are true about thyroid hormones:**

A. Inadequate secretion of thyroid hormones (hypothyroidism) leads to tachycardia, arrhythmias, weight loss, nervousness, tremors and hyperthermia
B. Excess secretion (hyperthyroidism) causes tachycardia, arrhythmias, weight loss, nervousness, tremors and hyperthermia
C. When the concentration of circulating thyroid hormones is high, TRH secretion is stimulated by a feed-back mechanism
D. Secretion of TSH in the posterior pituitary is stimulated by ACTH
E. Thyroxine is the more active form compared to triiodothyronine
F. The main thyroid hormones are triiodothyronine and thyroxine
G. Condensation of a diiodotyrosine residue with a monoiodotyrosine residue generates T3
H. At pharmacological doses, dopamine, somatostatin or glucocorticoids can also block TSH secretion
I. Condensation of a diiodotyrosine residue with a monoiodotyrosine residue generates T4
J. Inadequate secretion of thyroid hormones (hypothyroidism) leads to bradycardia, sensitivity to cold and impaired mental and physical development

249. **About the pharmacokinetics of thyroid hormones and the treatment of hypothyroidism, the following are correct:**

A. The treatment of hypothyroidism consists in the administration of levothyroxine
B. Both T3 and T4 are not absorbed after oral administration, being exclusively parenteral
C. Hypothyroidism is usually the result of autoimmune destruction of the gland or peroxidase and is diagnosed by detecting an elevated level of TSH
D. Foods, preparations containing calcium, and antacids containing aluminum may decrease T3 absorption, but not T4 absorption
E. T3 is converted to T4 by two distinct deiodinases, depending on the tissue
F. Levothyroxine has a short half-life and therefore several doses per day are required
G. The treatment of hypothyroidism consists in the administration of metamizole
H. Drugs that induce P450 enzymes, such as phenytoin, rifampicin and phenobarbital, accelerate the metabolism of thyroid hormones
I. Levothyroxine toxicity is directly proportional to T4 levels and manifests as nervousness, palpitations, tachycardia, heat intolerance and unexplained weight loss
? J. Foods, preparations containing calcium, and antacids containing aluminum may decrease T4 absorption, but not T3 absorption

250. **The following are correct about the treatment of hyperthyroidism:**

A. Propylthiouracil can block the conversion of T3 to T4
B. Following partial or total neutralization of the thyroid, most patients become hypothyroid and require administration of levothyroxine
C. In hyperthyroidism, the TSH value decreases through negative feedback
D. Thyrotoxicosis is a pathological condition due to a reduced amount of thyroid hormones
E. Metamizole has a higher potential for liver toxicity or liver failure than propylthiouracil
F. Propylthiouracil can block the conversion of T4 to T3
G. Thyrotoxicosis can be treated by removing part or all of the thyroid gland, inhibiting hormone synthesis or blocking the release of hormones from follicles
H. Thyrotoxicosis is a pathological condition due to an excessive amount of thyroid hormones
I. In hyperthyroidism the TSH value increases by negative feedback
? J. Thioamides have a short half-life, so a single administration per day is sufficient